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Address.

LARYNGOLOGY AND OTOLOGY.

ADDRESS OF CHAIRMAN.*

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It gives me much pleasure in opening this session of the Section of Laryngology and Otology to note the proportions to which these specialities have grown. They are no longer the weak sprouts from the parent trunk, but have become sturdy branches bearing rich fruit. As the branch, however, can not flourish unless it is in healthy communion with the parent tree, no more can these specialties bring forth the best results unless their devotees are well grounded in and continue to keep in close touch with their great parent—General Medicine. They have even grown to be such sturdy children that at times they can not sit together, for on February 3, of this year, the Laryngological Society of London unanimously passed the following resolution: "That it is desirable that at all international congresses there shall be full and separate sections for laryngology and otology." Whether the youngest child, rhinology, is to sit alone, or be taken under the wing of one of the other sections, and if so, which one, is not mentioned.

LARGER RECOGNITION BY MEDICAL COLLEGES.

This development has been in the face of many difficulties, and the lack of recognition of the value of these branches and the inadequate provision of teaching facilities is still apparent. Even in scientific Germany, which so freely gives state support to every interest of medicine, and with no stinting hand bestows honor and compensation upon her intellectual sons, in order that they may be able to give their best efforts and years to science and indirectly aid the prestige and prosperity of the nation—even here we find that these departments are not accorded their proper standing in the university curricula. Particular attention has been called to this by Prof. A. Barth, at his induction as professor at the University of Leipsig last July. At present it is not compulsory in the German Empire for the medical student to include otology, laryngology or rhinology in the examination for his degree. Ophthalmology is classed with the surgical division: said division being separated into four parts, of which three are given to surgery and one to diseases of the eye; it is to be hoped that in the near future similar provisions may be made for our triad. It is true that Germany is well provided with splendid clinical facilities for these branches—filled with an abundance of surgical material. Perhaps there would be less if all her physicians were compelled to acquire at least a rudimentary knowledge and fair appreciation of the evils resulting from neglect of affections involving the nose, throat, and ear.

Professor Barth has formulated the following propositions:

1. Every university should have a chair for these departments, with the necessary teaching facilities, i. e., a clinic, a polyclinic, and a laboratory. 2. The occupant of said chair shall have a seat and voice in the medical faculty. 3. It shall be obligatory upon students to attend the lectures and pass an examination in the diseases of the ear, nose, and throat.

Considering the above conditions, we have cause to congratulate ourselves upon the position accorded these branches in this country. Nevertheless, let us not be too self-satisfied, for it is still a fact that with few exceptions these specialties receive far less didactic and clinical attention than one is led to believe by looking over the various college announcements. A year ago I made special inquiries in this direction and was surprised to find how few lectures were devoted to this branch in some of our foremost colleges—a condition partly due to the fact that the science of medicine is steadily growing, and there is not time to qualify in all departments.

PROGRESS SHOWN BY LITERATURE AND INSTRUMENTS.

That the activity in this special field is ever increasing, is evident by the amount of literature upon this subject which has appeared during the past year. This includes several hundred contributions to journals, in addition to larger works briefly outlined below.

ENGLISH.

D. Braden Kyle, "The Diseases of the Nose and Throat," a work that has at once been accorded a high rank both in this country and England.

The fifth edition of Lennox Browne's classical work, "The Throat and Nose."

"The American Text-Book of Diseases of the Eye, Ear, Nose and Throat." Edited by de Schweinitz and Randall. The last three subjects are to be issued in a separate volume.

C. G. Coakley's "Manual of Diseases of the Nose and Throat."

St. Claire Thompson, "The Cerebrospinal Fluid: Its Spontaneous Escape from the Nose, with Observations on Its Composition and Functions in the Human Subject."

S. S. Bishop's "The Ear, Nose and Throat, second edition.

E. B. Dench's revised edition of "Text-book on Diseases of the Ear."

Drs. Head and Andrews, "The Year-Book of the Nose, Throat and Ear."

James Hinshelwood, of Glasgow, "Letter, Word, and Mind Blindness."

GERMAN.

E. P. Friedrich's "Rhinology, Laryngology and Otology, and Their Relation to General Medicine."

A. Rosenberg's "Diseases of the Mouth, Throat and Pharynx." Second edition.

M. Hajek's "Pathology and Therapeutics of the Accessory Cavities of the Nose."

"Encyclopedia of Diseases of the Ear." Edited by Louis Blau, in Berlin, and contributed to by sixty-one other aurists of note.

Jankau, "Vade Mecum for Specialists in Diseases of the Ear, Nose and Throat."

*Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

E. Von Bergmann, "The Surgical Treatment of Brain Affections," a work of much interest to the otologist.

Danziger, "Deformities of the Palate and Their Relation to the Nose, Eye and Ear."

Prof. E. Hitzig has contributed a valuable article in Nothnagel's "Pathologie u. Therapie," on "Vertigo."

Dr. R. Kayser, "Diseases of the Lymphatic Pharyngeal Ring." This work was jointly begun by Kayser and the late Professor Gottstein, and first appeared in Heymann's "Handbuch des Laryngologie u. Rhinologie."

ITALIAN.

Prof. Gherardo Ferreri, "Manuale of Therapeutic and Surgical Treatment of the Ear."

Of new instruments and modifications of old ones there are a goodly number, all of them more or less valuable. There is need of a practical hot-air apparatus which will furnish the operator hot air under a pressure of from 5 to 25 pounds, dry or moist, and of any temperature he may desire. Several instruments aiming at this have been produced, but I have not seen any that answer all of the requirements. The great difficulty is that the moment air under pressure is liberated it instantly cools, owing to expansion.

REGARDING DEAFMUTISM.

In England the question has again been agitated whether marriage between deafmutes should not be interfered with. Twenty-three per cent. of deafmutes marry in this country; in Europe from 7 per cent. to 12 per cent. Marriages of congenital deafmutes result in 12 per cent. of deafmute children. The percentage of deaf-born children has been placed by various authors at from 30 to 48. These statistics, based largely on the statements of parents, are far from reliable, and the percentage no doubt is much too high. We know to-day that many children become deaf at a very early period of their existence, through inflammation of the middle ear, the direct result of catarrhal changes, or secondary to inflammation of adenoids; if the deafness occurs during the first six months, then it is generally assumed to be congenital. Kerr Love states that he found no special physiognomy to mark deafmutes excepting that in 75 per cent. the appearances characteristic of postnasal growths were present. I have made a careful examination—by mirror where possible, otherwise by touch—of 450 deafmutes in the Illinois State Institute at Jacksonville and found an abnormal development of the third tonsil in 231, or over 50 per cent.

RECENT PROGRESS IN THERAPY.

Favorable results from solar rays as a healing agent in tubercular ulcerations of the throat have been reported by A. Abrahams. Heroin still continues to gain in favor as an anodyne remedy in coughs and irritation of the mucous membrane of the respiratory tract.

Protargol has also come to stay. The best results from its use are obtainable in chronic pharyngitis and atrophic rhinitis, in 1 per cent. solution; and in 5 per cent. solution in empyema of the antrum of Highmore.

Nirvanin, the chlorid of orthoform, is recommended as a local anesthetic and convenient substitute for cocain. It is claimed by Luzenberger to be non-toxic, and can be used in 10 per cent. solution. Its claims for recognition must, however, await more extensive trial.

Rethi recommends the negative air-douche as an aid in diagnosis and treatment of disease of the accessory cavities.

Whether to use heat or cold in acute inflammation of the mastoid is still under discussion. On the whole it appears that the advocates of the application of cold have been rapidly losing ground. I am a firm believer in the application of heat, but I do not apply it by means of hot bags or poultices—limiting it to the very frequent use of large quantities of water at a temperature of 110 to 120 F. as a douche in the external canal, the elevation of the douche to be only enough above the ear to cause a free flow.

Matthaei, of Danzig, recommends as an important aid in the treatment of affections of the nose, throat and ears, deep inspirations—to the very limits of inhalation—with closed mouth, and with retention of the respired air for 1/4 minute, or if walking, during six or eight paces. The exercise should be continued as long as possible.

The use of formalin in weak solutions is still undetermined. In the treatment of vegetable parasites of the mouth the use of alcohol in 50 per cent. solution has brought out most flattering reports. I have used it in my practice during the past 6 months in the above-mentioned strength as a mouth wash and gargle; in full strength as a spray in chronic inflammation of the nose and pharynx, and in the postnasal douche in the strength of one of alcohol to five of water—with sufficiently good results to warrant further investigation.

Fischerich has again brought forward the intratympanic injection of a 2 per cent. aqueous solution of pilocarpin muriate in middle-ear sclerosis, beginning with 6 drops and gradually increasing to 16. From 30 to 50 daily injections constitute the course. His results in 120 selected cases have been very satisfactory.

E. Baumgarten advocates Schleich's method of infiltration combined with local cocain anesthesia in operating upon deviations and ridges of the septum, as it reduces the amount of hemorrhage. That this method is inferior to the use of suprarenal extract and cocain is evident to all who have used the latter.

Suprarenal extract is a most valuable acquisition to our list of therapeutic agents, but is still on probation to determine its real value. Its field of usefulness is much restricted by the tendency to hemorrhage hours after its use. Dr. Mayer rightly maintains that it is better to have whatever loss of blood there is to be at the time of the operation, when the operator is still present with all facilities at hand to control it, if need be; than to invite its occurrence some hours later, when skilled aid may be hard to find. It is well enough to bear the following points in mind, as given by Dr. W. H. Bates:

1. The solution of suprarenal extract should be freshly prepared for each operation, as after 3 hours at 70 F. it usually shows a change in color and becomes less active. 2. We can not show a percentage of strength with any degree of accuracy, as we do not know the amount dissolved. 3. It soon becomes offensive from the growth of bacteria and may then cause infection. 4. The activity of the suprarenal extract is lessened by mixing it with other substances, including cocain. 5. Dr. J. J. Abel has isolated the active principle of the suprarenal, which he finds to be an alkaloid, and has named it epinephrin. The bisulphate of epinephrin in about 1 per cent. solution is active and non-irritating and is said not to undergo decomposition.

As an anesthetic, ethyl bromid has been both praised and condemned. The chief argument against it is that its action only lasts from 2½ to 3 minutes. A fresh preparation must be used each time, as it is very volatile and liable to decomposition, causing changes which render its use unsafe.

G. P. Head, in the "Year-Book of Nose and Throat," states that two deaths have been reported from chloroform during adenoid operations. Three years ago I en-

countered a number of adenoid cases where the anesthetic caused unpleasant, and in a couple of instances, alarming, symptoms. The cases had all been properly prepared by rest and diet before the operation. Since then I have used exclusively Merck's chloroform, and have never encountered any unpleasant symptoms.

PROGRESS IN ETIOLOGY, DIAGNOSIS AND TREATMENT.

Danziger has called our attention to the fact that persons with defects of the membrana tympani might, while diving or swimming, have the water enter the perforated ear with such force as to cause dizziness and nausea, after the manner experienced by some patients when their ears are being syringed, and that this condition may sometimes be the real cause of the patient's drowning. There being no visible proofs, death is generally given as due to heart failure or cramps.

Whether Graves' disease is due to an affection of the thyroid gland or of the nervous system appears still a subject of speculation.

Guye, Lannois and Tournier have reported upon agoraphobia and believe disease of the ear to be a causative factor.

Rischawy calls attention to the fact that while inflammation of the inferior turbinated is most frequently the cause of tear-sac affections, chronic inflammation of this duct can result from hypertrophy and pressure of the middle turbinated body—often favored by dehiscence of the bony canal at this point.

A point of much interest, and one that it would be desirable to have verified by other observers from different sections of the country, is brought out by E. C. Ellert, of Tennessee, who states that adenoids do not occur in the negro. It has also been claimed that the negro is exempt from granular conjunctivitis.

Rhinologists are still at variance as to the origin and treatment of ozena. As to origin, it appears to be narrowing itself down to one of two causes: Some believe it to be of trophic origin, perhaps having its point of beginning in the bone. Cozzolino believes the bacillus mucosus develops simply because of the favorable field, and brings about two of the most disagreeable symptoms —fetidity and crusts. There are, however, many who believe that ozena is only a secondary manifestation due to disease of the accessory cavities. Where local treatment only has been adopted, cupric electrolysis appears to have yielded the best result. In the treatment of hypertrophic conditions in the nose there has been a steady decline in the use of the galvanocautery. While nearly all admit that the galvanocautery has a limited field of usefulness in intranasal work, it is rapidly being supplanted by clean, surgical operative procedures.

Kicer's article on the accessory sinuses, based on 200 post-mortems, is highly instructive in showing how frequently the sinuses are involved; but the most important point of all is his conclusion drawn from so much material—that puncture of the frontal sinus from the cavum nasi is a decidedly risky procedure, the probe as a rule entering the sinus only after piercing several cells, and in a number of instances penetrating the lamina cribrosa and entering the cranial cavity without the operator knowing that the probe had taken the wrong direction.

Treatment of chronic empyema of the maxillary antrum and sphenoid sinus is still yielding but little satisfaction. Whether the transplantation of epidermal strips by Thiersch's method, into the thoroughly curetted cavity, will bring us better results, still remains to be proved. I saw Dr. Jansen make a number of these operations last autumn and from a surgical standpoint it seems this method ought to yield a much greater percentages of cures than the old way. Jansen encountered much difficulty in preventing the accumulation of secretions causing maceration and often loss of the transplanted flaps. This marvelous operator now enters the sphenoid cavity by means of long narrow chisels, passing through the posterior wall of the antrum into the sphenoid cavity. I performed the operation a number of times upon the cadaver, but must say that I have scarcely the courage to do it upon the living when handicapped by bleeding, etc., preferring to make the opening through the nose.

The chiseling off of the entire anterior wall of the frontal sinus, as practiced by Kuhnt, Grunnert and others, appears to me, excepting in rare cases, an unjustifiable operation because of the resulting disfigurement, as the frontal sinuses can be thoroughly entered from either side of the median line through the floor and anterior wall of the cavity.

Hendelsohn's carefully conducted experiments to demonstrate the reaction of tonsillar tissue to pulverized substances, when blown on or injected into their substance, led him to the conclusion that the tonsils are not protective organs, but, on the contrary, being receptacles of infective germs, their removal, if abnormal, is indicated, not only in the interest of easy respiration and deglutition, but to obviate infective diseases.

That the operation for adenoids should be radical and under some form of general anesthesia is now the opinion of most operators. That the presence of adenoids adds to the gravity of the disease in diphtheria is shown by Plottier's investigation of the bodies of 38 children who died from that disease. He found adenoids present in 50 per cent.

Jessen refers to the fact that large masses of cervical lymphatics that resist all ordinary methods of treatment disappear promptly after the removal of nasopharyngeal adenoids.

This condition is frequently seen, but I must confess that I never quite realized its full importance as a diagnostic sign until of late, when I operated upon two children in whom this condition was pronounced. Being in daily contact with them I studied all of the symptoms carefully, and noted especially that although the adenoids did not interfere with respiration, the glands on the side of the neck fluctuated very much in size with every fresh catarrhal attack. The glands disappeared promptly and permanently after the operation.

Piffl, who investigated 100 cases of hyperplastic pharyngeal tonsils mostly from Zaufall's clinic, advises in case of the least suspicion of tuberculosis to remove the pharyngeal tonsils at once, and radically; particularly if swollen lymphatic glands are on the neck. At the last meeting of the Gesellchaft der Kinderärzte, in Moscow, Dr. Sack presented this subject in a masterly manner. He believes that the "glandular fever" described by Pfeiffer in 1889 is probably an acute adenoiditis—this condition at times assuming a subacute character with fever, pus-resorption and cough, lasting weeks and even months.

The reported results of operations upon the larynx for malignant growths are very gratifying. Gluck, for instance, reports that in his last 26 operations for carcinoma of the larynx he has had 23 cures. Felix Semon has also published an article giving similar results. Dr. Garelle has perfected an apparatus by means of which he can produce stereoscopic photographs of the condition of the larynx—full credit is given to French of

Brooklyn. F. Von Mangoldt has reported four successful cases where he transplanted costal cartilage into the larynx for the cure of severe stenosis and defects. Dr. Alapi has also reported a case of larynx stenosis cured by skin-transplantation by Thiersch's method. Dundas Grant calls attention to the fact that in a large number of cases laryngeal inflammation is associated with, or secondary to, nasal disease.

The osteoplastic opening of the mastoid after Kuster is still a very recent operation. That it will receive much encouragement at the hands of other operators I believe is doubtful: if used at all it will largely be limited to acute cases, requiring only the classical operation. His claim that the flaps offer a good opportunity for the tampon in case the sinus or dura mater is injured during the operation is not worthy of serious consideration. Many of our German confrères still practice the leaving of a large post-auricular opening after radical mastoid operations. Some are in favor of leaving the opening permanently; while others close it by a plastic operation after one or two years, provided there has been no return of the disease. This opening is very unsightly, especially in men, who can not cover these parts after the manner of women, and excepting in rare cases I fail to see the need of it. In 115 radical operations including the usual variety of cases, I have not found it necessary to leave a single one permanently open, and all have recovered with a canal larger than before the operation, permitting free inspection of every portion of the cavity. The transplantation of skin grafts into the cavity after the radical operation, either by Thiersch's method or pedicled flaps, shorten the process of epidermization very materially; but it still remains to be proved whether or not the hearing power of the ear is less than it would be by the old method; because a thicker epidermis may form over the stirrup and round window. Also whether, in certain cases, the leaving of the hammer and anvil in the radical operation will give better results, remains to be seen by practical demonstration upon a larger number of cases.

NEUROLOGY AND MEDICAL JURISPRUDENCE.

ADDRESS BY CHAIRMAN.

HUGH T. PATRICK, M.D.

CHICAGO.

On assuming the chair of this Section I desire to express my keen appreciation of the honor conferred upon me and my recognition of the disproportion between officer and office to be filled. Knowing full well that neither unusual scientific attainments nor long years of service entitle me to this distinction, I none the less feel free to avow the liveliest satisfaction with my present position. However pleasant may be the approving eye of the public, however gratifying the laudation of medical students, and however dear the affection of grateful patients, surely sweetest of all is the confidence of one's associates: the men who know; the men who can estimate another at his real worth; who can recognize good work and detect superficiality at a glance; who peer into scientific lacunæ and are in a position to note professional backslidings as well as personal merit. When, therefore one is chosen by his confrères to preside at their deliberations, he should feel as does your chairman—grateful, proud and happy.

After a thoroughly honest and rather prolonged effort to prepare a statement of the recent advancements in the branches belonging to this Section, as required by the Constitution, I frankly acknowledge my inability to do so within the limits of an address restricted by law to forty minutes, but which should not exceed twenty. During the last year there has been no single pre-eminent discovery in our department. Advance has been general, accomplished by thousands of workers in many fields, and an attempt to cover this in a short address would either produce a puerile *index medicus* or result in invidious distinctions unworthy of a fair mind and misleading to the reader. Unwilling to deliberately perpetrate either fault, I have consigned most of my work to the much-cheated waste-basket, and shall confine myself to a few suggestions and remarks considered to be germane to this Section, its work and members.

I would first respectfully suggest that the name of the Section might well be changed so as to omit "medical jurisprudence" as an integral component. Early in the movement which brought forth the Section now known as that of Neurology and Medical Jurisprudence, the aim was to include nervous and mental diseases, but the officers and leaders of other Sections, recognizing that much of their best matter might be taken from them, opposed the proposition so strenuously that defeat seemed assured. Rather than capitulate, the promoters promptly executed an orderly and temporary retreat by accepting a Section on Medical Jurisprudence alone, since nobody wanted that, and it was willingly turned over to the neurologists, alienists and medical experts. This was in 1886. In 1890 their second forward movement accomplished the addition, or rather prefixion, of neurology, and for a decade the title has remained unchanged.

An examination of the records for the last ten years shows that in the work of the Section, medical jurisprudence has taken a relatively unimportant position. Of the total 444 papers announced, 64 may be reckoned as belonging to this department, but of these 39 related to the medicolegal relations of nervous or mental affections, and thus would naturally fall to a Section on Neurology and Psychiatry, leaving only 25, or 5.6 per cent. coming to this Section because it was that on Medcal Jurisprudence. During the same time 125 papers on topics coming under the general head of Psychiatry, including inebriety, hypnotism and psychology, have been announced; that is, 28 per cent., exactly five times the number on forensic topics, excluding nervous and mental disease. Even without these figures, it must be perfectly evident to any one who has observed the matter at all, that the great strength of this Section lies in its neurologists and alienists—men who are only casually or secondarily medical jurists. In fact, I very much doubt if the subject of medical jurisprudence should be assigned as an entity to any Section of the Association. Would it not be more reasonable and successful to allow and encourage each Section to consider that particular phase of legal medicine which would naturally be of interest and profit to its members? The legal bearings of oöphorectomy are of importance to the gynecologist, while this special surgeon cares little about the forensic relations of cataract, and the neurologist can well afford to ignore both. Furthermore, while nosologicaly, medical jurisprudence may be said to be a well-defined department or branch, be it of medicine or of law, in the practice it has not attained to the dignity of a specialty in either profession. There are practically no physicians who confine their efforts to legal

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medicine, and the subject is particularly connected with no special line of work. To repeat, then, I would submit to you the question of changing our name to "The Section on Nervous and Mental Diseases," or "The Section on Neurology and Psychiatry."[1]

However ambiguous the paternity and connections of medical jurisprudence, there can be no question as to the standing of neurology and psychiatry—speaking of them combined as constituting a single branch of medicine. This specialty is the legitimate child of increased medical knowledge and the inevitable differentiation involved in evolution. At least, no one of those who know best can deny that the specialization of this part of practical medicine is absolutely necessary for the better understanding of nervous and mental diseases and for the best results in their treatment. Yet, strange as it may seem to most of us, there are many physicians who seem to think that, however interesting neurology may be as a study, and even useful in the discovery and elucidation of esoteric technicalities, it has no necessary place, and hence should play no vital part, in everyday practice and teaching—and this in face of the fact that most physicians, surgeons and specialists are almost obtrusively willing to acknowledge their ignorance of the nervous system and to deplore their inadequate instruction as students in its diseases. Since every neurologist and alienist knows this ignorance to be so ubiquitous as to be pathetic, and since he knows, too, that no professor of internal medicine is now thoroughly competent to teach nervous and mental diseases, is it not his duty to the public and the profession to see to it that his specialty is accorded proper recognition in the practice and in the schools? The ophthalmologist is not slow to insist that no general practitioner, that no general surgeon, is warranted in operating for cataract. With equal propriety the gynecologist frankly asserts that certain operations must be attempted only by the man of peculiar training and skill. No one will say that more time, talent or industry is necessary for the making of a good oculist than of a good neurologist; yet, while our eyes, thank God! are cared for by the oculist, the nervous system in the public, in the profession and in the medical school is largely attended to by any indifferent man. To be sure, in the schools may generally be found a clinical or associate chair, simply a sop to common sense, while from other chairs the neurologic teaching of a quarter of a century ago goes merrily on.

Any neurologist to whom it comes to quiz the graduating class of a medical college or a collection of practitioners, will find the trail of the serpent over them all—the serpent of ignorance let loose by professors of general medicine, gynecology, surgery and what not—who are allowed by medical faculties to dabble in subjects with which they are only half acquainted or of which they have no knowledge. Here is the whole explanation of the crude and misty ideas of neurology which hamper rather than help the young practitioner.

But while insisting on the absolute necessity of the recognition of neurology in schools, if the young physician is to have knowledge of nervous disease commensurate with his needs, it may not be amiss to remind the exponents of our department that the class-room is not a court for airing anatomical minutiæ, unconfirmed discoveries and recondite theories, but is the place for the preparation of young men to assume the duties and responsibilities of the practitioner of physic.

Co-ordinate with the art of practical teaching is the art of practical practice, and back of both must be the art of practical investigation. If the position of the neurologist in institutions of learning is to depend on the utility of his teaching, his position in the active profession will rest largely on his usefulness as a practitioner, and there would seem to be some room for improvement in this respect. In some quarters it is almost the fashion to say that the nervous system is marvelous to contemplate and the neurologist a clever diagnostician and very erudite gentleman withal, but that he never cures anything. A most unjust sneer, because he is the means of curing many maladies, but even if he were not, he would still have ample field for usefulness in preventing and correcting the monstrous blunders of his detractors.

And yet, where there is so much smoke there must be some little fire. Are we not too much engrossed in the study of stains, tracts and symptoms? Sworn devotees of the healing art, are we not abusing our energies in the pursuit of new maladies and the mere vagaries of disease? Official healers of men, some of us become veritable pathomaniacs, blind to the patient, seeing only the pathologic process. To get a side light on this subject I have gone to a few of the leading neurological journals. In one year of the *Neurologisches Centralblatt* there appeared 70 original articles and 811 abstracts. Of the original papers only one may be counted as devoted to therapeutics; of the abstracts, 49. In the *Deutsche Zeitschrift für Nervenheilkunde* for a year were 46 original articles, not one of them on treatment. Two volumes—about two years—of the *Archiv für Psychiatrie und Nervenkrankheiten* contained 61 original contributions, of which one was on a therapeutic subject. The *Archives de Neurologie* for a year presented 37 papers, 2 on treatment. In two volumes—two years—of *Brain*, I found 54 originals, none on a therapeutic topic. The *Journal of Nervous and Mental Disease* for a year contained 46 originals and 222 abstracts. Of these, no original was devoted to therapeutics and only 25[2] of the abstracts were. That is, in six of the leading neurological journals of the world only 2.2 per cent. of the original contributions related to the cure or alleviation of disease, and counting the abstracts, largely taken from journals not neurological, the proportion of therapeutic topics reached only 5.4 per cent. Do not these figures show that in our eager search for knowledge and praiseworthy desire to be scientific, we are neglecting our more utilitarian function?

The proposal made by your chairman of 1897,[3] that the secretary should be continued in office for two years or more, seems to be a wise one—although it ill becomes the present chairman to say so—and I wish to add a suggestion or two which seem to me to be along the same logical line. As a secretary is sure to profit by his own experience and by familiarity with the men interested in the work of the Section, so may he profit by the experience and personal knowledge of previous officers and of strong men of the Section. I freely confess that as secretary and as chairman, I have been keenly alive to the responsibility of the position, and have been most uncomfortably conscious of my incompetency to make perfect preparation for the meetings, and thus attain ideal results. Even the Pope, graduated into his position by virtue of pre-eminent genius and after years of laborious apprenticeship, prayerful education and ripe

1. This suggestion was carried out, and the name changed to Section on Nervous and Mental Diseases.

2. Twelve of these I contributed.

3. Dr. W. J. Herdman, Ann Arbor, Mich.

experience, is considered to be infallible only after mature consultation with the college of cardinals. Hence, it seems to me eminently fit and practicable, as conducing to wiser decisions, more effective policy and particularly to compactness of organization, that before the adjournment of each meeting there should be a consultation of the incoming officers with the executive committee and a few of the wiser and more experienced members. Not only would such consultations contribute materially to the success of the following meeting, but a repetition of them, I am sure, would materially aid in making this Section one of the strongest in the Association, and the minutes of such committee meetings, carefully made and preserved, would be invaluable to incoming officers year after year.

And this leads me to another point. When, raw and callow, I first assumed the duties of secretary, I was astonished to learn that not a line of record, correspondence, instruction, precedent, hint or suggestion descended to me from my predecessor. For fourteen years motions had been made, amended, lost, carried and had quietly slipped into oblivion, leaving no trace behind. Policies had been endorsed and rejected, resolutions adopted, committees had been appointed, had reported and been discharged, and not a minute made. I submit to you that this is a slipshod way of conducting affairs and not calculated to breed good executives.

Without your sanction I have ventured a small beginning. As retiring secretary I transmitted to Dr. Pearce the complete correspondence of two years, with a short series of programs, upon which were marked those men who had been present to read papers. You know there is a certain small contingent of members who are always willing to announce papers and as regularly default. They are to be religiously shunned, but the secretary can not do this unless he knows who they are. I have also purchased for the Section an indexed blank book, in which the secretary may make such records and entries as may seem proper and advisable. And as a token that, although our place of meeting and officers change annually and our active membership is more or less floating, our organization is yet permanent and we a unit, I beg to present to the Section a plain gavel, suitably marked, which I hope may descend from chairman to chairman through many successive years of ever greater prosperity of the Section on Neurology and Medical Jurisprudence.

Original Articles.

POST-FEBRILE INSANITY AND ITS TREATMENT.*

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All disorders that affect general nutrition of the body may affect the mind. The brain, the organ of the mind, is sensitive to nutritional changes, and when these are profound they may permanently affect the mind's nature. The imperceptible fluctuations of brain nutrition have concomitant fluctuations of mental action, and these physical processes, if carefully studied, reveal to us that there is physical basis to mind. The physiology of mind need not be discussed here nor need we wander into the psychologic labyrinths to study the relationship of body to mind. It is only necessary to state, whatever is the organic process of mental action, its basis is, like that of other elements, in the cell. The brain-cell has its organization and its nutrition; perversion of either causes disturbance of function. This disturbance when changing the routine and characteristics of an individual mental life, we sometimes call insanity. But do not let me have you infer that insanity is alone perversion either in organization or nutrition of brain-cells, for that would imply that mind essentially was the direct function of the brain, when in reality mind is a constitutional function, a function of the organism as a whole; that is, that every organic function of the body has representation primarily or secondarily in the whole we call mind. Hence, in dealing with mind disease we are dealing with the body in disease. This fact should impress the metaphysically inclined alienist with the thought that to treat the mind we must treat the body, and he who would succeed as an alienist must first, last, and all the time be an internalist, in touch with the progress being made in internal medicine. Especially is this necessary in handling the mental disorder, post-febrile insanity, which we are now to consider.

In view of the foregoing remarks, there is a cardinal principle in internal medicine which we may take for our text, because of its applicability, and that is, "that disposal of the waste products is essential to the health of the cell." Healthy metabolism is the keynote to bodily health. Burchard has shown that abnormal metabolism always precedes infection and what renders possible the development of disease is not the chance meeting of man and microbe, because we are constantly assailed by pathogenic bacteria, but it is due to the diminished resistance—the modification antecedent to nutrition—the failure of nutrition; in short, abnormal metabolism which permits infection to enter, to remain undisturbed and to grow and multiply. The morbid opportunity is grasped, and nutritive activity being perverted, infection results. The study of infection is one of the recent triumphs of modern medicine and should concern every physician, for the possibilities of practical application derived from the patient and exhaustive researches of the laboratory worker extend to every department of medicine. Welch says, "there is now tolerable unanimity of opinion as to the meaning attached to the terms infection and infectious diseases. Most recent authorities understand by infection the condition produced by the entrance and multiplication of pathogenic micro-organisms within the body. An infectious disease is one which is caused by the invasion and reproduction within the body of pathogenic micro-organisms."

We will not, however, attempt to discuss immunity and susceptibility, and while we will not deny the importance of a thorough understanding of the biology of bacteria, yet we are concerned principally in the effects of infection. Every infection should interest us, and the perplexing problems of infection to-day should be studied that we may contribute our mite to their pathology. Again, as alienists and neurologists, we meet with the clinical results of infection, showing the rôle which the nervous system plays in this field of study. Ernst[1] quotes the conclusions of the exhaustive review made by Mills along this line. They are as follows:

1. Specific infection must be included among the causes of mental diseases and of symptoms which precede, accompany, or follow febrile or other infectious disorders.

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1 Twentieth Century Practice, xiii, 200.

2. Much negative evidence can be adduced in favor of acute delirium being due to toxemia, such evidence is afforded by autopsies, which reveal neither gross nor histologic lesions; and in these cases the toxemia probably overwhelms the patient before the production of meningitis or other disease.

3. Analogies to nervous affections, which are known, or believed to be of microbic origin, such as multiple neuritis, myelitis and chorea, favor the view that insanities with similar or related phenomena and lesions are also microbic in origin.

4. The evidence afforded by careful bacteriologic investigations of acute insanity is thus far too meager but shows that various micro-organisms may induce the same or similar types of mental disease.

5. The mental disorders of pregnancy and the puerperal state are probably in a considerable proportion of cases, toxemic, without reference primarily to childbirth; but it can not be regarded as proved that a bacillus of eclampsia or puerperal mania is a sole cause of these affections.

The psychic and nervous troubles, then, which may originate from toxemia are many. The manner of causation is primarily by means of the absorption of products of the various pathogenic processes. The perverted nutrition brought about by the febrile disease makes possible conditions in which certain substances elaborated by the living organism are modified—either by their disproportioned existence, or by reason of this disproportion abnormal substances are allowed to be generated and retained, thereby becoming toxic substances, and produce poisoning more or less severe. "The augmentation of normal substances either by increased formation or retention can induce quite a series of accidents," some of which are uremia, asphyxia, cholemia, etc. Many of the new products resulting from faulty metabolism are capable of producing intoxication. As examples we have eclampsia, coma, epilepsy, etc. This intoxication, or toxemia, is now being exhaustively studied both at home and abroad. The excellent work of Christian A. Herter, of New York, is especially instructive and valuable. Regis has made a clinical study of the psychoses of autointoxication, to which we will refer later.

HEREDITY.

Heredity bears a position in the etiology of post-febrile insanity which, in a sense, may be called tentative, inasmuch as the insanity is not a true heritage in post-febrile insanity. The obscure tendencies only partially revealed under the stress and strain of disease may be the simple result of the toxemia. However, there are certain individuals possessed of a neurotic weakness and a physical instability easily influenced by febrile diseases. This condition, due to a flaw in the germ-plasm, seems to be easily disturbed, either by the febrile process alone or by its toxic products. The result is, certain persons become delirious under moderate fever, others are practically insane during the continuance of infectious fevers, and some women become insane during the puerperal stage at every childbirth. Again, the toxic products of metabolism affect certain individuals profoundly, as in gout, rheumatism, etc. Neurotic temperament is a foundation for alienation following febrile disease. It is an error in breeding, a flaw in generation and about the only true hereditary factor in the etiology of post-febrile insanity.

RESIDENCE AND OCCUPATION.

It has been my experience that residence is a factor in causation of post-febrile insanity, but only as regards location being favorable in the production of the febrile disease. For example, I have seen insanity follow malarial fevers; the home of the individuals being in the malarial belt of Illinois. So-called typhomania is dependent on typhoid fever and this in turn on poor hygiene, municipal or domestic. Occupation is an etiologic factor only in the same relationship.

TYPES.

The nature of the mental disease, post-febrile insanity, varies. It has no distinctive form, varying with individuals, and in the same individual at different times. I had one patient, who, following typhoid fever, had acute mania of a violent type, but following influenza he developed melancholia. The types usually seen in post-febrile insanity are acute mania, acute melancholia, recurrent mania, and sometimes general paralysis. The psychoses of autointoxication are classed by Regis[2] under a single head, "confusional insanity." He says, the psychoses of autointoxication have a special symptomatology and a characteristic type. On this account I wish to briefly state his results, that it may aid us in differentiating types. The symptoms upon which he lays special importance are headache, which is often initial in its feature and may be prolonged throughout the attack. It may be paroxysmal and so severe as to produce delirium. The second important symptom is insomnia, which is also early and constant in its manifestations. Less frequently convulsive attacks are encountered, also pupilary changes, reflexes, increased tremor, irregular pulse, cyanosis, skin changes, flushings, cold extremities and sallow compexion. He classes the cases as follows: 1, simple asthenic confusion; 2, acute and subacute mental confusion; 3, mental confusion with stupor; 4, subacute confusion of a pseudoparalytic type.

The types of post-febrile insanity may in a measure follow the same classification, except that there seemingly is a wider range of alienation in the cases following infectious fevers as compared with those following autointoxication from other sources. The effects of the toxemia, whether it be from the direct action of the pathogenic bacteria or their toxic products, or from autointoxication, are: 1, to depress function, this depression ranging from contusion to profound melancholia with marked delusions; 2, to stimulate function, causing over-excitation of mental processes, delirium, loss of inhibitory control, incoherence, to grave cases of acute mania with profound exhaustion; 3, to impair function by intracellular changes, and finally, to abolish function and produce paralysis. The pseudoparalytic to the true general paralytic state.

The severity of the attack of post-febrile insanity seemingly has no apparent relationship to the severity of the febrile attacks, as I have seen cases of acute mania follow a mild attack of facial erysipelas and a case of mild melancholia follow a prolonged siege of typhoid fever.

Again, the time of the appearance of the insanity may vary; thus, it may appear while there still lingers a vestige of the fever, the delirium of the fever merging into a true insanity. A boy aged 19 who had a mild attack of typhoid fever, running the usual course, developed true insanity four days after his morning tem-

2 American Year-Book, 1900, p. 421.

perature reached normal, and his evening temperature only one degree above. Acute mania resulted, from which he recovered at the end of three months. In a case seen in consultation following erysipelas, the mental disease did not develop until five days after subsidence of the fever, and acute melancholia resulted, lasting nine weeks. Another case, following influenza, developed melancholia a week after the febrile attack. We may notice that other sequelæ of fevers develop at the same time that the mental disease is in evidence; thus, in one of my patients phelgmasia dolens and insanity followed typhoid fever. Another case of acute mania following measles in an adult developed pneumonia, and death followed about the fifth day. Another case of measles in an adult, with melancholia, developed acute nephritis, and finally died of uremia. It may be of interest to state here that I have noticed in my experience that occasionally an acute infectious fever attacking a patient already insane, promotes recovery, or temporarily causes mental improvement. Thus in a case of chronic mania after acute lobar pneumonia, the patient recovered his reason, having been insane seventeen years. Another case of acute melancholia had erysipelas, and during the febrile stage was himself in every way; his complete recovery followed speedily after the erysipelas.

DIAGNOSIS.

The diagnosis of post-febrile insanity under ordinary conditions is not difficult, especially when following typhoid fever, and I may add erysipelas. In typhoid fever, the peculiar typhoid state is stamped upon the individual, and in the great majority of cases, melancholia is the type of insanity. However, I have seen in consultation several cases in which maniacal excitement was especially pronounced, and two cases presenting the physical symptoms of the paralytic form—a pseudoparetic state, distinguished from genuine paresis by the pupilary symptoms, the speech symptoms, and the absence of characteristic vibratory trembling of the tongue, although motor weakness may extend to the facial muscles. Again, the characteristic delusions of paretic dementia were absent, and instead, a mild delirium, with incoherence, was present. Another feature of diagnostic interest is the fact that many cases of beginning post-febrile insanity first manifest mental symptoms at night, being comparatively lucid during the day. Gradually a change is noticed, the hallucinations become more vivid and delusions appear. Delusions of a persecutory nature are more common in cases following typhoid fever, and it not infrequently occurs that suicide follows such attacks. I have known of three suicides in post-febrile cases in private practice; two by drowning, and one by jumping from a window. Post-febrile insanity has a true vesanic foundation and it is to be distinguished from the constitutional degeneracies. This is usually easily done by considering the history and general symptoms presented by the case. What may be termed a pseudoparanoia may result as a sequela of influenza—I have seen in consultation two such cases, in which the delusions were systematized and persistent, but later, with the restoration of bodily health, the delusions gradually faded away and finally disappeared; the patients making good recoveries. The use of modern laboratory methods will cast light upon obscure symptoms in differential diagnosis. A blood-count and microscopic study have been of great aid to me. These, with urinary analysis, should be followed in all cases as a part of the systematic routine of clinical examination.

PROGNOSIS.

The prognosis in all cases of insanity should be guarded, as it is difficult to measure the hereditary factor, and, again, the accidents of mental disease should be considered. In post-febrile mental disease occurring in adults with a good family history, and free from any diathetic associations, the prognosis is generally good. Especially is this true of melancholia, but patients with acute mania exhaust themselves rapidly and the natural exhaustion of insanity added to the already debilitated state of the patient makes the prognosis in such cases guarded. But, upon the whole, the prognosis is good in the average case.

TREATMENT.

The treatment resolves itself into proper care, good nursing, a systematized routine, and good hygienic surroundings. Some cases do well at home, but ordinarily they are better off in a well-regulated hospital or special institution. The nursing is of special importance, and in cases following typhoid fever, the routine should be that observed in the care of ordinary typhoid cases, to which is added the care and protection needed to combat the insane features of the case. A more liberal diet is a feature in the care of insane cases differing from ordinary convalescence from typhoid fever. Bushuyer, a Russian, gives a more generous diet to his ordinary cases of fever than we are accustomed to give in this country. He, probably, is too enthusiastic, yet, experience teaches that a liberal diet can be given, provided we treat the patient and not the disease. In the words of Shattuck, "feed him with reference to his digestive power, rather than solely or mainly with reference to his fever." It is to be expected that both skill and ingenuity will be needed in order to properly feed and nurse a post-febrile case; to this end all of our efforts should be centered. It is imperative that due regard be given to elimination, and a proper regulation of the secretions; then as nutrition becomes re-established, the patient will gain in weight, and gradually the mental symptoms will clear up. In many cases it becomes necessary to enforce rest, and in acute mania this must be assiduously secured, else the patient exhausts himself speedily. A modified rest-treatment is to be recommended in cases of a melancholy type, especially after convalescence seems to be pending. There should be no "hard and fast rule" as to rest-treatment; it should vary with the needs of the patient. Massage is indicated in many of the apathetic cases; it promotes nutrition and in some cases will induce sleep. In the true cases of autointoxication, elimination must be promoted by liberal use of aperients, diuretics, and, if necessary, brisk cathartics. The urine should be carefully measured and an analysis made so as to determine its quantity and quality. The percentage of urea should be observed and a microscopic examination made to determine the presence of casts. I saw during the past winter two cases, in consultation, both of whom presented symptoms of autointoxication and had been treated as such, but a more careful diagnosis showed acute nephritis. Uremic poisoning had caused the mental symptoms. Plenty of water is indicated in such cases, both internally and externally. In my hospital cases, I urge a sponge-bath daily, followed by brisk rubbing. Good drinking water is urged on all occasions. As to drugs, I use only such sedatives as are absolutely necessary. Of these, opium and hyoscyamus I use principally, and only in sufficient quanity to produce the sedative effect. Most cases of post-febrile insanity demand tonic treatment from the beginning; iron in easily assimilated

form and arsenic are indicated. The anemia is best met by the use of arsenic; iron and strychnia are valuable adjuvants. Other tonics, especially the mineral acids combined with nux vomica and pepsin, or the malt preparations with tonics, are also valuable. In adolescent female cases iron and manganese make an excellent combination.

As convalescence progresses, some active exercise may be encouraged, such as walking, riding and light gymnastics. When convalescence is established, and not until then, travel may be suggested. Traveling with a convalescent post-febrile case is not safe, and suicides occur among such patients.

PRACTICAL PHYSIOLOGY OF THE DIGESTIVE ORGANS.*

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In this paper it is the intention to allude to some well-known physiologic principles and to describe certain details not so well recognized, all with reference to their application in digestive practice. It is obvious that such a consideration, to be even fairly brief, must be disjointed and incomplete.

1. *The Mouth and Salivary Glands.*—The importance of mastication and insalivation is an old story. While admitting it, I am skeptical as to the chemical value of salivary digestion. While, by very elaborate mastication of dry cereals, J. H. Kellogg has been able to accomplish the conversion of considerable quantities of starch into sugar, as ordinarily carried out, even by careful eaters, only the small proportion of soluble starch of the very light test-meal is digested. Some animals are quite lacking in ptyalin, and I believe the principal function of the mouth and salivary glands to be mechanical. It may be of interest to know that pytalin will convert small quantities of cane-sugar into a sugar that reduces an alkaline solution of $CuSo_4$. Several investigators have conducted elaborate experiments to ascertain just how much HCl is required to inhibit carbohydrate digestion by pytalin. In general, these investigations may be summed up as follows: Pytalin digestion normally continues during the first hour of gastric digestion, or, in fact, till HCl secretion reaches its normal maximum.

To what extent is it necessary to administer artificial diastase in failure of starch digestion in the stomach? In view of the fact that, normally, only small quantities of starch are digested before the intestine is reached, it would seem rational to conclude that the mere failure of pytalin digestion is not an indication for diastase. If the starch simply does not digest, as in hyperchlorhydria, let it alone till the pancreatic ferment strikes it. If it ferments, treat the bacteria and fungous activity in the stomach, preferably by administering HCl. If there is a well-marked indication for superalimentation, then there exists the only possible indication for artificial diastase, unless the amylopsin is lacking, and this condition I have diagnosed only once, in a case of Addison's disease.

Regarding sugars, there is a physiologic puzzle that awaits a solution. Starch is digested only into maltose either by pytalin or amylopsin. Maltose is a double hexose—$C_{12}H_{22}O_{11}$—like cane-sugar, and lactose, both of which are foods of considerable quantitative importance. All of them are converted into dextrose and levulose by the inverting ferment of the intestinal glands. Certainly some of these double hexoses must be absorbed before the intestine is reached. Do they exist as such in the portal blood? Are they changed in passing the gastric epithelium? Is there a hepatic or hemic ferment to convert them into glycogen? Do they pass through the liver into the general circulation?

The activity of the salivary glands in excreting such substances as the iodids has been adapted to the test of gastric absorption. After administering a capsule of KI, the drug is normally detected in the saliva within fifteen minutes. A delayed appearance has been considered proof of delayed gastric absorption. In one of my patients, in whom it appeared only after an hour, I found that the capsule would not dissolve in water, but required digestion, so that the iodid test was really one of proteolysis. In some very serious cases, I have found that the iodin went the round of the circulation and was eliminated in the saliva with normal promptness. On the whole, the test is so artificial and depends on so many unknown factors that it has little practical value.

2. *The Esophagus.*—Some years ago, while listening for deglutition murmurs at the cardia, it occurred to me that the time of the passage of water through the esophagus, between the elevation of the hyoid and the sound at the cardia, might afford an indication of the rate of peristalsis in general. With a little experience, the average time will be learned—it is about 8 seconds—and a marked delay is almost invariably associated with gastric atony, dilatation, ptosis or intestinal sluggishness. However, I have recently examined a case in which the esophageal peristalsis was normal, but in which there exists marked constipation.

The esophageal mucus resembles that of the cervix uteri, in being tenacious and stringy. It is a most excellent lubricant, and it is entirely unnecessary to lubricate the stomach-tube, though it is well to moisten it. The appearance of esophageal mucus in considerable quantity sometimes indicates that the tube has kinked, and explains the failure of lavage. In a recent case, the gastrodiaphane, having a rigid tip two inches long, turned in a roomy esophagus, from which 250 c.c. of slime was regurgitated during the attempt to pass the instrument through the cardia. The normal esophagus will just about admit a No. 11 tube, although some will allow the passage of food, or at least a breaking of the vacuum beside the tube. Patients with roomy esophagi have usually been in the habit of bolting their food half masticated. A practical question in this connection is as to how large an object a baby can swallow. He has been seen playing with some article which has disappeared; has it gone into the stomach? Even infants may take an adult-size stomach-tube, and I am inclined to think that they may swallow smooth and approximately spherical objects of a diameter up to one-half inch. If a child or adult swallows a quantity of solid objects—for example, bits of glass, corn or vegetables having indigestible seed-coats, the pits of fruits, etc.—when may we expect the appearance of the foreign body at the anus? From some slight experience and much study, we may lay down the rule that, there being no diarrhea, the first of the foreign matter will appear in twenty-four hours, the last at the next day's passage.

The esophageal murmurs are commonly described as first and second, only one being present. A clearer and simpler way of stating the thing is that the sound made by liquids passing through the cardia varies from a sharp squirting to a low gurgle, according to the force

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of peristalsis and the degree of contraction of the cardia. The sound is of slight diagnostic value.

3. *The Stomach.*—Probably every one who has given much attention to this organ will agree that if we could know but one fact regarding it, we should choose to be informed as to its acidity. There is no longer the least doubt that the normal secretion is of hydrochloric acid, along with pepsin and rennin. A long list of series of experiments with various meals allows the general statement that, after an ordinary meal, there is a period of from one to two hours, according to the size and nature of the meal, before the capacity of the proteids is reached by the acid secretion. From this time on there should be a small excess of HCl, and, provided the excess is not sufficient to irritate the stomach, the exact proportion is not a matter of importance. While HCl is undoubtedly an antiseptic, it is not very markedly so in a proportion so small as not to irritate the mucosa, and the fermentation in achlorhydria is rather due to lack of digestion of proteids and to the usual concomitant failure of peristalsis than to direct lack of antiseptic. After a light meal, however, such as the test-breakfast, there should be found, after an hour's preliminary digestion, more than a trace of HCl, not because more is needed for that particular meal, but because the stimulus of food should call forth something like the normal quantity of HCl secretion. Just what this excess should be is a matter of controversy. Gastric juice contains about 20:10000 of HCl, and this may be taken as the maximum of free hydrochloric acidity which should be found in the chyme. Is it correct, following what might be termed the Boardman-Reed school, to call hyperchlorhydria every case in which the chyme after the test-meal contains more than about 10:10000 of free HCl? If so, we shall find hyperchlorhydria a comparatively common neurosis, and we shall find an excess of HCl in connection with quite a considerable organic acidity, in numerous instances. The opposite view, to which the writer subscribes, is that a case should not be called hyperchlorhydria unless there is at least the amount of free HCl found in normal undiluted gastric juice, or unless there is an excessive dilution of the food with gastric juice of considerable hydrochloric acidity and unless the HCl is clearly the cause of symptoms of irritation. According to this view, hyperchlorhydria can not coexist with any appreciable degree of organic acidity, except occasionally on account of the introduction of food already fermenting or very prone to fermentation. The difference of definition is not entirely a matter of terminology, as, according to the conception of the case, one might administer HCl, another alkalies, and both can not be right. The real question is whether, in these cases of gastric irritability, the HCl is the irritating factor or a conservative one. Löwenthal, quoted by Alois Pick, of Vienna, in a pamphlet on gastric hyperesthesia, introduced 250 c.c. of 3 to 10 per cent. solutions of HCl and lactic acid respectively, into the stomach, through a tube, and allowed the solutions to remain from one to several minutes. These solutions, varying from fifteen to fifty times the strength of normal gastric juice, produced no sense of burning or pain, although the stomachs were hyperesthetic to substances produced in the course of digestion. Hence, it seems conclusive that the HCl is not the irritating factor, unless organic fermentation can be excluded, and that we should not use the term "hyperchlorhydria" nor oppose the hyperchloric secretion, unless organic acidity is nearly absent and hydrochloric acidity surpasses the standard of gastric juice, i. e., 20:10000.

Text-books are surprisingly non-committal regarding the amounts of free or combined HCl, and of total acidity to be expected under normal conditions. Using dimethylamido-azobenzol as an indicator for free HCl, alizarin as an intermediate indicator and phenolphthalein for the total acidity, I should place the degrees of acidity, meaning the ratio of decinormal solution of monobasic alkali to the quantity of chyme used, about as follows: Total acidity, 50 to 100; combined, 20 to 30; free HCl, 20 to 50. Free HCl should be about half the total acidity.

When, a few years ago, Boas announced that the formation—not the presence or introduction—of lactic acid in the stomach was pathognomonic of carcinoma, most Americans accepted the statement as gospel truth. Some few of us were skeptical enough to exclaim: "How can lactic acid, which can be produced from almost every food except pure fats and oils, by any one of six or a dozen different bacteria that may be present in the stomach, be pathognomonic of cancer or of anything else?" But it required much tedious labor to disprove the assertion. Like every fallacy, this statement does contain a germ of truth. Lactic acid is the most conspicuous product of fermentation in the stomach. While practically always present in traces, the disease which most frequently and uniformly results in marked gastric fermentation is carcinoma and especially that of the pylorus, with secondary dilatation and stagnation of gastric contents. But there may be carcinoma without lactic-acid excess, or vice versa.

A very practical suggestion for the busy physician is whether stomach contents change materially after withdrawal, so that the results of examination would be vitiated by delay. From numerous experiments, comparing titration tests immediately after withdrawal and at the expiration of several days, I am able to state that, if cooled immediately to 40 F., very slight changes of any kind occur within two or three days, though there is a gradual absorption of free HCl by proteids, with corresponding increase of acid albumin and, possibly, of albumose.

While HCl fluctuates according to trivial exaltations or depressions of gastric function, pepsin and rennin are always present in gastric juice in sufficient quantity, execpt in the gravest gastric conditions, carcinoma, anadenia and achylia due to severe constitutional states, such as Addison's disease, according to a personal observation, and probably high grades of fever and the antemortem state. It is usually said that, if rennin is present, pepsin is also, and thus the simple experiment of curdling milk may be substituted for the more tedious one of digesting albumin. I have observed a case of carcinoma in which the rennin test was normal, but albumin was not digested, even after adding HCl. Ptyalin, by the way, is practically never lacking, according to 1000 experiments by Ewald, and I can add my mite in corroboration. The practical deduction is that ferments are very rarely indicated as aids to digestion. Certainly, they should not be given unless their lack has been actually demonstrated, and, in such exceptional instances, the chances are nine out of ten that the stomach and bowel are in no condition to act as digesting cavities, even with artificial aid, and that predigested foods should be given instead of ferments.

It was formerly believed that the stomach emptied into the intestine, all at once, several hours after a meal, but we have long known that the emptying takes place in waves, beginning within a few minutes after a meal and continuing at intervals of a few minutes throughout

gastric digestion. The portions allowed to pass the pylorus are semi-liquid and quite completely digested, according to the standard of thoroughness of the stomach, which is not very high. Personally, I am inclined to believe that further observations will show that there is exceedingly little absorption through the glandular membrane of the stomach, and that the potassium-iodid test really marks the first peristaltic wave into the intestine, provided that the gelatin capsule is rapidly soluble. The salol test for gastric motility usually results positively three-quarters of an hour after taking the powder, and this, I have shown, is the case whether the powder is given immediately at the conclusion of a meal or at some other time. Some years ago I made a thorough study of this test, including not only personal observations, but the work of others, with the following conclusions: The test can not possibly represent an emptying of the stomach, though it may theoretically correspond in time to the average motility of this organ; the very conditions which are prone to accompany delayed motility, diminished hydrochloric acidity and catarrh, allow the absorption of salol from the stomach (Cornil); the test does not agree with the other more reliable clinical observations; no reliance can be placed on it unless in such extreme instances that the existence of stagnation is already evident. Ewald, to disprove these views, ligated the pylorus of dogs and found that absorption of salol did not take place. These experiments, however, are fallacious, because: 1, the animals were presumably healthy, there being neither diminution of HCl secretion nor mucous excess to favor the absorption of salol from the stomach; 2, the shock of such an operation would naturally prevent absorption, according to all surgical experience.

A very practical question regarding gastric peristalsis is as to its excitability by electricity. Experiments on this point, by Einhorn, Meltser and others, are somewhat contradictory. All, however, agree to a very practical extent. Contractions can be readily, though slowly, produced, if one or both poles are applied to the peritoneal coat of the stomach, and they either do not occur at all or only infrequently if one pole is within the stomach and the other on the skin. On account of clinical experience I abandoned this method seven or eight years ago. More recently, having a patient who insisted on its use, I connected a stomach-tube with a bubble manometer, which, although simple and not adapted to quantitative estimates, is very sensitive. After several séances, we were convinced that, while respiration affected the endogastric pressure considerably, the faradic current had not caused a single peristaltic wave, though a few had occurred during the séances. In vivisections, I have frequently been able to confirm the belief that gastric peristalsis, due to faradism, even with both poles on the serous coat, is tardy, slow and slight and by no means equal to that produced by mechanical irritation.

An ingenious but fallacious method of judging of absorption, etc., depends on quantitative examinations applied to chyme, after the introduction of known quantities of certain substances. For instance, to prove that soluble solids, but not water, are absorbed from the stomach, a sugar solution of known percentage is introduced. After an hour, the stomach is thoroughly emptied and the liquid quantitated. The invariable result is a diminution of percentage, after allowing for the additional amount of water introduced in thoroughly cleansing the stomach. But this diminution is inevitable from the fact that some sugar is lost by a passage through the pylorus, while water is added by secretion of gastric juice. For instance, in a case of hyperchlorhydria, I found 500 c.c. of chyme an hour after a test-meal amounting altogether to only 250 c.c. Similar, but less striking results are often noted. Huber's oil test, consisting in the estimation of oil remaining after an hour and intended to afford information as to gastric peristalsis, lacks this theoretical error, but it is extremely difficult to remove every particle of oil by lavage, nor is it possible to deduce information as to how the stomach will deal with ordinary food from observations as to how it responds to a stimulant of peristalsis, like oil.

INFANT-FEEDING.*

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There is no more important subject in the domain of preventive medicine than that of infant-feeding. While the melancholy fact remains that a third of all infants born, largely because of improper nutrition, die before the completion of their third year, the abundance of literature on this subject constitutes no sufficient reason why it should not again and again be taken up. On the other hand, the infant mortuary records plead piteously that the subject be not laid aside as threadbare. It is not merely on a par with the most important subject in preventive medicine, but is itself the most weighty in this branch of the sanitary sciences. Not merely the life and well-being of the infant and child, but those of the adult and generations yet to be born are most vitally influenced by proper feeding of the infant. That real progress has been made in our understanding of the subject no one endeavors to say. That we are better able to cope with the needs of so great a problem than they of the former generation many are fondly hoping. Yet when the more or less completely theoretical is brushed aside and the practical weighed in the business balances, the progress made in life-saving appears alarmingly visionary. Our clear conception of the chemistry of human milk in all its minutiæ has failed to give us a synthetic breast milk capable of producing precisely the same physiological effects as the natural product; and it is essential that this fact be more generally recognized and made the basis of action.

Mother's milk for mother's baby affords human food for a human being, and will go farther to solve the vexing problem of a persistently high mortality among infants than all the chemical erudition in the world. A recent German writer has well said that the natural food of infants is not vegetable, but animal, and that proper digestion and nutrition depend more on the biology than on the chemistry of the food taken.

The purpose of this paper is to plead for a closer adherence to, and a stronger advocacy of, Nature's method of feeding on the part of our profession. Two forces are to be combated in this connection, if we would make genuine advances. The first is the present alarming disinclination on the part of mothers to breast-nurse their offspring, and the second is the clamor for commercial supremacy in the sale of artificial foods. These are mutually independent, each taking advantage of the other. Young married women wish no offspring, and finding themselves mothers, they shirk the vitally important duty of committing themselves to the highest

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interest of the child. It may be her false modesty, the pressure of social functions, the desire to return to her former employment in the office, storeroom or mill, or her wish to place the immediate care of the child into the hands of a skilled nurse, that prompts the mother in this course. In this she is abundantly encouraged by the multiplicity of so-called infant foods and the manner in which they are advertised to the public. Her false logic that whereas only the mother can care for a breast-nursed infant, anybody can attend to the bottle-fed, is sustained by the sight of scores of fat babies' photographs used to exploit the merits of an artificial food. Since fat babies are by no means of necessity healthy ones or such as possess a normal measure of resistance to disease, this is also a real force to be combated. Breast-nursed infants may or may not be fat, but the chances are that they are robust and fleshy, which is better. They are not exposed, as are hand-fed infants, to a great many common sources of infection; and when exposed they have greater powers of resistance. Cow's milk, which of necessity enters more or less into the composition of the food of all hand-fed infants, is peculiarly adapted to absorb all sorts of impurities and convey infection. From the time it leaves the udder of the cow until it reaches the nursing-bottle it unavoidably meets sources of contamination and naturally invites infection wherein exposed. When we consider how manifestly unhygienic are the surroundings of the average dairy stable, and how perfect a culture-medium milk is to some pathogenic bacteria, we may well marvel that the mortality of bottle-fed children is not vastly higher. To control this prolific source of infection previous sterilization or pasteurization is universally recommended, but what proportion of hand-fed children receive such milk? The stoic truth of the matter is that both the necessary equipment to sterilize the milk properly, and the patience and skill required to persist in such sterilization days and weeks and months, and it may be years, are not found in the average home, and thrice blessed is that family in which they are not demanded. Nor is the problem well solved when the absolute sterilization is assured, for are we not ready to admit that sterile and sterilized milk are not equally valuable food? Are not pasteurizing milk-plants yielding their own measure of disappointment?

It may be taken for granted that every man, even in his infancy, is a law unto himself, and likewise every mother. Diversities of individual circumstances and idiosyncrasies make it needful sometimes to have early recourse to hand feeding, but the rule should be that while the mother's breast secretes milk at all, the child shall have all the benefits to be derived from it. Koplik recently showed that the advantages to the infant of even one breast-nursing in the course of twenty-four hours are too great to be lightly regarded. Infants having at least this advantage thrive better and grow faster than when wholly hand-fed. In such instances there is increased difficulty to determine the proper quantity of cow's milk to supplement the nourishment obtained from the mother, but this is generally quite easily overcome and never outweighs the advantages to the infant of mixed feeding. Part breast is superior to all hand feeding, and should be universally so recognized. If for any reason the mother's breast is wholly valuless let the cow's take its place, but before this change is made the mother should receive proper treatment to stimulate, if possible, adequate flow of milk. It is reasonable to suppose that if the medical attention which early weaning necessitates on the part of the infant were bestowed on the mother a fair proportion would be enabled to suckle their offspring and many children would be saved from early graves. It is well to remember, when searching for an efficient galactagogue, that nutritious food is superior to drugs, and that the "queen of the dairies," who broke every record for a large yield of rich milk, took in addition to her allotment of provender the milk of other cows.

Granted that every proper effort to make the mother profitable to her infant has resulted in failure, feeding with cow's milk is by common consent the proper recourse, but the problem is by no means rendered easier by the change. It is now vastly more complicated and difficult, and should be so regarded by the physician and mother. Cow's differs materially from mother's milk, and as ordinarily procurable is never sterile. Modification is necessary, but cleanliness is imperative. Cleanliness in the dairy, the milk, the bottle, the attachments, the infant—everywhere—counts for vastly more than does copying the composition of average human milk; yet both enter into the vexing problem of hand-feeding. The milk laboratory commends itself on the score of cleanliness and uniformity of composition of the milk which it insures, but in a large majority of instances home modification is still the only recourse at hand.

The writer's experience leads him to place special emphasis on the careful selection of a product of milk; that which is properly collected, cooled and at once tightly bottled, when delivered within a reasonable time and kept in close proximity to ice until needed, is always to be preferred. Such milk may be expected to yield even better results than laboratory milk; under ordinary circumstances it need not be subjected to the usual process of sterilization. So much for the cleanliness of the milk itself, and in conclusion a word about home modification. The excess of proteids is best reduced with water—that which has been previously boiled; and for an infant under 2 months old, pure milk, diluted with equal parts of water, will generally prove a proper food. For older infants, if the character of the stools or the progress in growth indicates that a change may prove beneficial, a smaller quantity of water or water with one of the artificial foods should be used in modifying the cow's milk. It is here that the infant foods of commerce are properly employed. They reduce the native proteids, render more easily digested the relatively tough and dense casein from cow's milk and serve as ballast. One of the few brands which have been employed by the profession for many years can generally be selected—that which seems best to suit the needs of the individual case—with a fair degree of assurance that satisfactory results will follow.

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EXACT INFANT-FEEDING: ACCIDENTS AND INCIDENTS.*

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The object of this paper is to call attention to the accidents which may arise from the very exactness of the methods employed. I do not mean to say the accidents are inherent in the methods; I am going to call your attention to certain responsibilities on the part of the physician. Accidents may arise in mechanical ways; they

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may arise from faults of a higher order. Let us assume that we are agreed upon the following:

1. That cow's milk is the only variety of milk to be considered in substitute feeding. 2. That dairy cleanliness is necessary. 3. That the modification of milk according to some definite formula is demanded. 4. That it is desirable to have the milk modified in a laboratory for purposes of cleanliness and exactness.

The discussion of the respective values of gravity and centrifugated cream does not enter into consideration here; a laboratory furnishes what is ordered, as does a drug-store. Some one has said: "You may order red ink in the milk and it will be put in." I am asking you to assume no more than I myself fully believe, namely, that dairy cleanliness, percentage feeding and properly conducted, well-equipped milk-laboratories constitute an essential advance in infant-feeding. If these points are allowed, we come to the subject of this paper, viz., the accidents of exact feeding, the abuse of exact methods, if you please. Modified, clean milk is one thing; the modification of milk is another. The modifier of the milk is the physician. I am going to ask the physician to take to heart the fact that he assumes a distinct responsibility when he consigns a child to a fixed formula. The other thing—the normal growing child is not the same infant in his physiologic demands more than a few weeks at a time. Upon the physician falls a certain responsibility; when he writes and records a prescription he assumes this; when he consigns an infant to that prescription the responsibility continues until he changes the prescription.

The following case will show what may happen: A female infant born at term may be said to have started life fairly; the parents were apparently healthy, even robust; the other children in the family were healthy. When three days old it was put upon modified milk from the Walker-Gordon Milk Laboratory; this was the prescription: Fats, 2 per cent.; sugar, 4.5 per cent.; proteids, .75 per cent.; lime water, 5 per cent.; heated to 167 F. Two ounces each feeding. By the twenty-seventh day the feedings had been increased gradually to fats, 3 per cent.; sugar, 6 per cent.; proteids, 1 per cent., etc.; a prescription which would be considered satisfactory for the age. Soon after this the patient went to the country, the feedings being sent to it by express daily. For 4½ months there was no supervision of the child, no change in the proportion of its food-ingredients. At the end of the summer, there was one small advance in the proportions—fats, 3.25 per cent; sugar, 6 per cent; proteids, 1.75 per cent.—and the child was lost sight of for 3¾ months. The infant had now arrived at nine months of age. It was getting its first teeth at this late date, without trouble; some slight swelling of the gums was noted; there was no bleeding and no discoloration. Teething was, of course, late, but apart from this there was nothing to call the attention of an unprofessional person to the child's condition, not even of an anxious and watchful mother. Indeed, the mother was quite confident that it was doing well—was it not fat?

One week after the appearance of the first teeth the unexpected happened. While wheeling the baby in the park the nurse observed one eye was unduly prominent, and, looking again, it was black and blue; she started for home, not a long distance away, and, to her astonishment, on her arrival there, found the other eye in a similar condition, though not so markedly. The family physician, on his arrival, found the appearances described above, plus marked tenderness of the ankles and knees; both were slightly swollen and painful, the ankles more sensitive than the knees. He also noted the fact that she used the legs less than she should normally. Some blood was passed from the bowels; blood was also found in the urine. The case was obviously scurvy. General treatment for anemia, with marked increase of the ingredients of the milk soon caused an improvement in the symptoms and a subsidence of pain, tenderness, swelling, etc. Note the fact that the improvement took place on milk still heated to 167 F., and containing the same amount of lime-water as before. Increased proportions and general treatment was all the change made. Neither orange-juice nor beef-blood was given.

The evidence of scurvy quickly disappeared under the influences of corrected regimen, but the case was not then well. It was a pronounced case of rickets. No clinic ever was favored with a case for demonstration of better showing qualities than was this child. For several months it could only sit upright between pillows on the floor. At the end of two years it was able to stand beside a chair, and was thought to have done wonderful feats when at last it could take those three or four little steps from one encouraging friend to another.

This case is here considered scurvy plus rickets, one disease of malnutrition superimposed upon another; the cause persistent and long-continued feeding upon milk furnishing insufficient nutrition; scurvy quickly disappeared under corrected regimen, the pronounced evidence of rickets after months of sufficient food, and after time enough for nature to strike its nutritional balance.

The child of the careless and ignorant may acquire rickets from improper food-proportions; but from the table of its elders it will obtain unhygienic apple cores, which will, at least, save him from scurvy.

To fix the feedings of an infant of one month and then lose sight of it for several months is not discharging our full responsibility. I am not forgetting that oftener it is the fault of the parents rather than of the doctor, as it assuredly was in the above case; they, however, are acting without knowledge and are less culpable. The busy general practitioner may forget. I am only in the fashion if I blame everything upon the doctor. It is enough if, in any way, I succeed in putting "a word to the wise." My experience leads me to think many babies are at this moment behind their age in the proportions they are taking in their laboratory feedings. I have recently heard the expression: "The baby is on 4—7—2; now (with a sigh of satisfaction) he can go a year." This voices the sentiment of many. There is a better method, however, and that is to advance the proportions gradually to a "full" milk; that is, to undiluted milk, fed clean and raw. This may often be accomplished at 8 months. My greatest ambition is to graduate to a full milk at 8 to 10 months.

In connection with this history I am reminded of a spontaneous expression of one of my neighbors in New York. "Yes, that case died; and I gave it Walker-Gordon milk, too." This expression better expresses the attitude of many of the profession than any other I have happened upon recently. He might have said with equal propriety, "I gave the child drugs, and it died just the same." The doctor avers he gave it "everything known" for summer complaint, including all the proprietary pulverized milks, and at last Walker-Gordon milk.

Gentlemen, I have purposely narrowed my subject. When I speak of accidents of feeding, I am not thinking of the unfortunate poor, of those in unhygienic surroundings, fed on grocery milk, but those whose circumstances place at the disposal of the family adviser all

reasonable requirements. I have pointed out some of the accidents. I shall be required to build if I have pulled down.

MEMORANDUM OF NEW FEEDINGS.

1. Begin all feedings of new-born and sick infants with very low percentages; assuming that a normal child has a certain scheduled formula, that same child should when sick have a feeding appropriate for a younger child. Reduce the strength of food for all sick children. I am inclined to begin the feedings of new-born and sick infants on fats, 2 per cent.; sugar, 5 per cent.; proteids. 0.75 per cent.; lime-water, 10 per cent., heated to 155-167F.; eight to ten feedings in 24 hours, of 1½ to 2 ounces, according to age and condition.

2. Increase the strength of feedings just as fast as the child can take it. The digestion of a growing, healthy child, as tested by the passages, is the important guide. When the passages become pasty—homogeneous—all one color, smooth like lard, canary-colored, the digestion is such as to warrant increasing the strength. Feedings of very young and convalescent infants can often be increased every two or three days to advantage. Such should be very slight increases and dependent upon the testimony of the diaper. In case of sick infants, the prescription should be changed less often or changed less abruptly.

An infant is not the same for more than about two weeks at a time. A thriving infant can to its advantage be seen every two weeks, the feedings readjusted to its growth. The feedings, in short, should always be made to fit. If the infant changes so much, it is not the same infant. Well, the feedings must fit, hence the function of the doctor and the use of modified milk.

3. I suggest the following memoranda to serve as landmarks in substitute feeding for normal infants, from birth to eight months of life:

1. FIRST PRESCRIPTION.

Fats	2	per cent.
Sugar	5	per cent.
Proteids	.75	per cent.
Lime-water	10	per cent.

Amount in each feeding, two ounces; number of feedings, 10; heated to 167 F.

2. LOW AVERAGE BREAST-MILK.

Fats	3	per cent.
Sugar	6	per cent.
Proteids	1	per cent.
Lime-water	5	per cent.

Amount in each feeding, 2 to 4 ounces; number of feedings, 8; heated to 155 F.

3. HIGH AVERAGE BREAST-MILK.

Fats	4	per cent.
Sugars	7	per cent.
Proteids	2	per cent.
Lime-water	5	per cent.

Amount in each feeding, 4 to 6 ounces; number of feedings, 6; heated to 155 F.

4. At 6 months the figures of memorandum arrange themselves in multiples of 3 thus: 3—6—6, 6. Intervals, three hours. Number of feedings, six; amount in each, 6 oz.; age in months,, six; nuheated—not Pasteurized—especially in winter season.

5. At 8 months, frequently, "full" milk, clean, may be fed "raw."

6. In prescribing, sick and feeble infants may be considered physiologically younger than their accredited age.

7. The fats, sugars and proteids should be advanced together, usually, by fractions of a hundred and at frequent intervals. Keep the prescriptions level or balanced, so to speak.

Finally, to summarize:

1. Clean cow's milk, modified to some definite formula, is demanded.

2. A laboratory for modification is desirable; it secures greater exactness and cleanliness.

3. The physician should frequently revise his formula; frequent small percentages of increase are to be advised.

4. Accidents may arise from consigning an infant for several months to insufficient food ingredients. A baby is not the same baby for many weeks at a time; its growth and physiologic demands change so much.

DISCUSSION ON PAPERS OF DRS. M'ALISTER AND NORTHRUP.

[This discussion was opened by Dr. Henry Dwight Chapin, but we refer our readers to his able article on "Substitute Infant-Feeding," in THE JOURNAL of July 14, in which his remarks are incorporated.—ED.]

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.—I find myself in a predicament this morning, for I am down for three talks at the same hour, all in different places. I have very little to say here, and I must condense it as much as possible. I am very sorry that I have not heard all the paper just presented. I agree thoroughly with Dr. Chapin regarding the partial failure of sterilized milk. It has not done everything that we expected it would do. I also agree with Dr. Chapin very fully in the belief that the fine modifications of milk are unnecessary and, I might say, are unjustifiable. I do not believe that they are especially beneficial. The animal body is so made that it can take care of a little excess of any one of the food stuffs. I am sure that the sterilization of milk, as ordinarily carried out, and even the pasteurization, is not desirable. If we can obtain perfectly fresh milk from the cow, with certain common-sense modifications we have the best food for the baby. The chief proteid in milk is a nucleo-albumin, and there is no question that it is changed by high temperature.

I have spent considerable time in ascertaining the exact temperature at which this change takes place, and it seems to be fairly sharp. A milk heated to 158 F. shows but little change; a milk heated to 160 F. shows quite a marked change. If the milk be heated long enough, and two or three times, it can be fairly well sterilized by heating it not higher than 158 F. I still believe that the high-death-rate from the summer diarrheas which continues notwithstanding the sterilization of milk, is due to failures in sterilization. The colon germ, I suppose, is the most frequent bad germ in milk, being almost universally present in market milk. This germ varies exceedingly in virulence. We can take a colon germ of moderate virulence, and we can increase that virulence so that .05 c.c. will kill a guinea-pig of a given weight in two or three hours. The colon bacilli, and probably other bacilli, grow rapidly in milk under certain conditions, and there is no amount of sterilization known that will destroy the toxin of the colon bacillus. If you will grow some of these bacilli on an agar culture, and allow them to grow for two or three weeks, and then scrape off the surface growth, you can heat that germ to 160 C., or 356 F. in a sealed tube with water, and there will not be the slightest effect produced on the toxicity of the poison. When you think that you can get a colon bacillus that furnishes a poison, one-fourth of a milligramme of which—1/270 of a grain—will kill a guinea-pig, you can have some idea of the powerful toxin that this germ produces, and which is not destroyed by any method of milk sterilization that we can resort to. We must, therefore, content ourselves with taking care of the milk and preventing its contamination. Most of the laity, and some physicians, think that any milk is all right if it is only properly sterilized. From what I have said you can readily see that no amount of sterilization can make milk containing this germ, sterile. The colon germ has an envelope varying greatly in its resisting power according to the virulence of the germ. The toxin is contained within this envelope. If you will take some of the colon germs, grow them, as I have indicated, scratch off the germ cells and put them in artificial gastric juice, and leave them there, it will completely dissolve the cell wall, and leave undigested the substance which I told you will kill guinea-pigs

in a dose of 1/270 of a grain. No amount of heat up to 160 C. or 356 F. has been found to have the slightest effect on the toxicity of this poison. I am sure that a milk which is already a good culture of colon bacillus can not be made safe for a child by any known method. We can kill the germ, but we can not get rid of the poison. This shows clearly one of the limitations of sterilization of milk.

Again, sterilization must be left more or less to the intelligence of the mother or nurse, and we all know of the resulting accidents. I was once called to a child suffering from diarrhea, and on inquiry I found that the nurse had a bottle of milk that had been properly sterilized, but I saw her pour the milk into a glass which she had previously roughly wiped out with her apron! I know of a case of poisoning that occurred from a growth of the colon germ in this way. The milk was received at the house at a certain hour each morning, but one morning, instead of being put on the ice directly, it stood for three hours at the summer temperature before being sterilized. That milk poisoned the child.

DR. WILLIAM L. STOWELL, New York City—The subject of infant feeding can not be presented in five minutes, but this time may enable one to call attention to a few important points. Percentage feeding is certainly ideal, but sometimes it is not so in its results. The point that should be made, I think, is that we do not sufficiently distinguish between the therapeutic effect of giving a child proteid and the nutritional value. When a child is very young, or has indigestion, we know that it can not readily digest the casein of cow's milk. We forget that after the child has recovered from the disturbance of digestion we must attend to the nutrition. The result is that the child is often kept for a long time on food having improper nutrient qualities. In order that a child may thrive and increase properly in weight and strength, and so not be subject to rickets or scurvy, the proteids should be increased just as early and as rapidly as possible. I have believed this, in a general way, for a long time. In hospital service I have insisted upon having the children placed as early as possible upon the largest possible percentage of proteids. I have often put them upon whole milk when only six months old. The effect of this practice was soon noticed by all the nurses of the hospital. I have obtained from the house physician a list of the children placed upon whole milk. Most of them being foundlings are poorly nourished when received. Two extreme cases will illustrate the matter. A child of 1 year had been given everything, and was suffering from marasmus. It was given milk represented by the formula: fat 3, sugar 6, and proteid 1. It continued to fail at first, but in one week after being put on whole milk it began to thrive. The other case was that of a marantic child of three months that gained thirteen ounces a week for two weeks on whole milk. A child of this age should not be theoretically placed on whole milk at all, but if children have a reasonable digestive capacity they can take a reasonable percentage of proteids, and should receive this amount. A moderate excess would be burned up. A child will not grow strong on sugars and fats if the proteids are kept low. I have had a case of scurvy develop in a family in which I had had the direction of the modification of the milk at first. The child had then gone away and had been kept for a number of months on milk intended for it at a much earlier age. I would, therefore, insist upon the fact that children can, and will, digest a large percentage of casein unless absolutely sick. I am convinced that the milk given should be whole milk whenever possible. No diluent is needed for a child above six months old except 5 per cent. lime-water.

DR. A. JACOBI—I understand there is a general session going on now, and that we should adjourn, so I will speak very briefly. If any one of us has come here under the impression that he could positively learn how to feed children, he must have learned by this time that he was mistaken, for every one of the speakers here has told you positively what you must do, and the advice was different in every case. Now, I advise you to use your own brains; it is wonderful how handy are brains in the practice of medicine! One physician tells you the milk must be diluted; another one says the milk must be given absolutely pure. Every one knows that he was correct, and a large number of babies know that he was not. I can not decide that question; I only know that what I have been teaching the last forty years has been nearly right. I find that people are coming around generally now—even those who most objected to it—to dilutions with cereals, such as Dr. Chapin has spoken of. I think it is the best plan, and I do know that pure milk will not be digested by the average baby—by that I mean nine babies out of ten. I do know that when you sterilize wholesale, no matter whether you call it Walker-Gordon milk or not—and separate the milk into its constituent parts, you can never make proper milk of it again. The same remark applies to all centrifugated milk. Again, though the percentages are finely spun out from day to day, and change perhaps from week to week, as Dr. Northrup has said, you are still not sure whether it might not have been better to change that milk sooner. You will find that mother's milk varies not only from day to day, but from morning to evening. There must be some mistake in the theory that milk must be given just in those percentages that the physician believes he has found out. Fortunately Dr. Vaughan has told you that Nature is a little more generous than doctors and their theories. She allows a good deal of latitude. If it were so very dangerous to have half an ounce more or less, and a little bit of sugar or water more or less, there would not be a child in Creation living. The taking, by a baby, of a little more milk at one time than at another is not a sentence of death. The normal baby will pass out a good deal of what it takes even from mother's milk. In the diapers of a baby you find undigested food, even in the very best-looking feces. This is true of all babies; the stools contain 5 or 10 per cent. of fat. A mother gives a baby too much fat, and you say she should be rebuked for it. Now, I appreciate the good that has been done with boiling and pasteurizing and sterilizing, and I have been teaching the advantages of boiling milk for forty or more years, but I do wish to say that we are overdoing our theories. Be sure that you have good milk, and that you mix it in the proportion that has been found experimentally to do some good, and be satisfied with the result. I repeat again, milk that has been separated into its constituent parts can never be restored to its former state by mixing the separated portions together again.

DR. A. C. COTTON, being called upon, said: How can I be expected to add anything to the succinct statements to which we have just listened, except to add my hearty indorsement?

DR. J. P. CROZER GRIFFITH, Philadelphia, Pa.—I do not wish to take up the time of the Section, but I disagree with many of the statements that have been made. I shall speak only on one point. Regarding the relation of milk of a certain character to scurvy I wish to say that, from the statistics collected a few years ago, I am sure that the sterilization of milk is perfectly capable of producing infantile scurvy, at the same time I am a thorough believer in sterilized milk under certain circumstances. This is because I believe that the sterilization of milk often is the lesser evil. We must above all, as Dr. Jacobi has said, use our brains, and adapt well-known principles to the individual case. I can recall having seen four cases of infantile scurvy in the past few months in children fed on unsterilized laboratory milk. I am a firm believer in laboratory milk, and there was certainly something wrong with the milk in these particular instances. I do not well understand what produces scurvy, and I do not understand the chemistry of milk very well.

DR. HENRY KOPLIK, New York City—I believe, with Dr. Jacobi, that we should try to feed the child and not try to work out mathematical formulæ to which the child must be made to conform. As far as healthy children are concerned, we must make a very close distinction between them and children who are not quite well. If the milk is roughly diluted for the perfectly healthy child by any of the methods known, the child will probaby digest the milk and thrive. Dr. Vaughan has called attention to the fact that a child may have good food to begin with, but before it has finished nursing its food may have become contaminated in such a way that the child immediately becomes an invalid. This is apt to occur from lack of cleanliness on the part of the nurse or mother. The milk may have been very clear, and have been carefully pasteurized or sterilized, yet if the careless mother or nurse handle this milk, perhaps just after diapering the baby, the child is liable to develop a severe gastro-enteritis. I have been trying lately to instill the doctrine that the mother must be taught to be clean,

and that the milk must be clean at the beginning, not only, but that it must be kept so. If this is done, a great many of the dangers threatening the infant will be averted.

Regarding sterilization, let me say that this problem is by no means solved. Some pediatrists insist upon raw milk being used, others on sterilization, and others still on pasteurized milk. This shows that the problem is far from being settled. Dr. Vaughan has told you that it is impossible to sterilize milk thoroughly, and this is true, but you can keep milk wholesome until the last bottle is used. The point is that the milk must be pure from the time it leaves the cow until it is swallowed by the baby. It is simply an impossibility to get a milk that is absolutely germ-free. The milkers are often just as uncleanly as the cow from which the milk is obtained.

I find that one of the principal things that has stood the test of time, and which was first brought forward prominently by Professor Jacobi, is the dilution of the milk in various ways. It is diluted, 1, to reduce the percentages; and 2, to break up the curd. Dr. Jacobi advises cereals, but personally I do not use cereals, preferring simple water as a diluent. If, however, this mode of dilution does not agree with the individual baby, I seek for something else that will agree with it. I then use gruel, or perhaps dextrinized gruel. It is surprising to see how some of these atrophic babies who will not do well on any ordinary modification of milk will thrive on some malted preparation of milk, or on milk diluted with some of the gruels. We must not, therefore, try to make a test-tube of the baby.

DR. WILLIAM P. NORTHRUP—It has been said that we all disagree. I think it is a very significant fact that we do agree upon one thing at least to-day, and that is the necessity of starting with an excellent quality of good clean milk. That is a monument of the advance in infant feeding which is most conspicuous. I was very much pleased with what Dr. Vaughan said about starting with a clean milk and keeping it clean. If a few bacteria get in they do no harm unless they grow and multiply, and leave behind a product which changes the quality of the milk. A few colon bacilli in milk kept at 40 degrees will not multiply or do harm. Several of the speakers have referred to the fine points I have drawn about percentages. I am not a stickler on such fine points. The kinds of mothers that I have to deal with are a very capricious lot, who will go to receptions and come home very tired and nurse their babies at a time when the milk contains a very large percentage of proteid. Nature may be very elastic, but I have seen babies very sick under these circumstances. I have learned to-day of a new mixture—so strongly emphasized by Dr. Jacobi—a mixture of milk and brains. This is like the great painter who mixed his colors "with brains." Dr. Jacobi has had the start of us in this matter of mixing brains with milk for forty years or more.

THE CREDULITY OF THE PEOPLE AS IT PERTAINS TO MEDICINE AND RELIGION.*

BY T. B. GREENLEY, M.D.

MEADOWLAWN, KY.

It would seem, from our every-day reading and observation, that the faith or credulity of the people is greatly on the increase. And this faith in the virtues of medicine and so-called doctors, is only equalled, or excelled, by religious instincts. If a new doctrine, either in medicine or religion, is promulgated, no difference how absurd it may be in the estimation of persons of common sense, there will soon be many believers or followers to embrace it.

By way of illustration we will allude to a few instances of this fallacious credulity, first as it relates to medicine. We see every day in the secular newspapers advertisements of wonderful curative remedies which have relieved patients after the treatment of the best doctors has failed to cure, and such published statements are calculated to excite the minds of the credulous to believe the statements, and if unwell, to try the remedies possessing such wonderful virtues. Then, if the article obtained contains any sedative like morphin, cocain or alcohol, which many preparations thus advertised do, the patient thinks, for a while, that it is doing much good, but soon finds it necessary to increase the dose, or it has but little effect. No doubt many habitués of narcotics, or drunkards, have resulted from this source. Many of these secret or so-called remedies for certain diseases, are composed of simple medicines, mixed with narcotics or alcohol in order to produce pleasant effects while under their influence; and some contain, perhaps, medicines which, if long continued, will produce a disease similar to the one they are recommended to cure.

Some advertisers of medical preparations head their notices with large letters, accompanied with pictures of skeletons, or death as a warrior with sword ready to destroy life; again, we now and then see the picture of a terrible serpent ready to coil around or perhaps swallow one, then again, we see a heading of a man ready to swing from the gallows with the rope around his neck, but the news of reprieve comes just in time to save him. This represents a condition of approaching death, when a great medical "discovery" is applied, and the patient is saved, after all doctors have given him up to die.

These terrible looking pictures are intended to alarm and impress people with the necessity of taking the medicine recommended in order to save their lives, etc.

A more pleasant aspect is in the fine photographs of persons said to have been restored to perfect health from death's door, and much better looking than formerly, the medicine having a beautifying effect, as well as restoring health.

You might ask: how can a patient, after reading accounts of such wonderful cures of diseases, which he imagines are similar to his own trouble, resist the temptation to try some of the remedy in his own case? The answer might be, that it is natural for a sick man to want medicine, especially if he sees attached to the advertisement the name of his pastor or some particular friend who claims it has cured him, no difference whether his is the same character of disease or not. This wonderful credulity is also manifested in the belief that the sick can be cured by "Christian Scientists," but this sect has more credulity than the patients. They deny the existence of pain or suffering on the part of the patients, and endeavor to induce them to believe their trouble is all imagination; that there can be no physical suffering; as no such thing as matter exists, everybody being immortal only. The "Christian Scientists" possess more credulity in the virtue of their plan of treatment, if possible, than our good friends, the homeopaths, do in the infinitesimal doses of their various preparations. I allude more particularly to their inert ingredients, such as chalk, silex, charcoal, etc.

In speaking of homeopathists, I allude to those who hold to the high-potency plan of treatment, but fortunately they seem to be somewhat scarce at present. Prof. Hale, one of their leading men, says there is scarcely one in a hundred so-called homeopathists holds to the true Hahnemannian theory. There is but little doubt that a large majority of those claiming to belong to that sect practice, mainly, regular medicine.

Then come our new friends, the osteopaths, who claim to cure all troubles by bone rubbing. This is more sensible than the "Christian Science" treatment, as it is based on the existence of matter. It might

*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

be asked how, if educated people like those just alluded to possess so much credulity as spoken of, can we blame the common people for believing what they hear of and see published in almost any paper?

There is one character of advertising, the consideration of which should not escape our attention. I allude to those so-called remedies for female troubles, such as amenorrhea, etc. In our estimation they are the most pernicious, and attended with more danger, both to morals and health, if not life, than all others. Yet we see them almost every day in our secular papers, and unfortunately lately I have noticed one of the kind in a medical journal. In the latter it was particularly charged not to give the medicine to a pregnant patient, as it would produce abortion, and this warning was in quite large letters.

The most popular remedies for amenorrhea, published in the secular papers, are under the titles of pansy, pennyroyal, etc., but of course, contain other ingredients. They are guaranteed to afford certain relief. The remedies are very carefully put up, sealed and of course secret. The precautions accompanying these advertisements are of such a character as to intimate their nature to any parties who wish to produce abortion.

In speaking of different preparations of medicines, I do not wish it understood that I am alluding to any but secret remedies. I frequently use proprietary medicines when I know their composition by the formula. No doubt some of the patent medicines are of value, but physicians do not like to, and hardly ever, use them without knowing their composition. If the formulæ of all patent medicines were given on the packages, I believe it would be as well for the proprietors as at present. If they were thus labelled and contained ingredients adapted to the disease under treatment, we would not hesitate to prescribe them, as it is a rule with the regular profession to use any remedy by which we can accomplish good, but, as before remarked, we do not like to give something of which we know nothing. Therefore, it has long been my opinion that the proprietors of all patent medicines, if they are of value in the treatment of disease, would be as well off in the disposition of their remedies, if a law was enacted compelling them to place a formula of their preparations on all their packages. The doctors would not then refuse to use them and the people would know what they were taking, and would not be compelled to exercise their credulity in the dark.

As to credulity in its respect to religious beliefs, we have already spoken of the sect called "Christian Scienists," which partakes of both medicine and religion. It seems to be a fact, to the ordinary observer, that no difference what dogma in religion or medicine may be gotten up, it will soon have adherents or followers. As examples we have Mohammed, who claimed to be an inspired prophet of the Creator, and although at first he had hard work to obtain many followers, he fought his way and finally became the idol of his people. Then, in our time, we have the followers of Joseph Smith, and the Latter Day Saints, and more recently, Schlatter, claiming to be the second Christ.

When we take a common-sense view of the various aspects of credulity, we are almost forced to the conclusion that in many instances the parties thus affected are bordering closely on a state of insanity.

In the event of commission of crime, if the plea of insanity was made by the defense, many of our courts of justice would, instead of conviction, send them to the asylum.

The question now arises, what can be done to ameliorate or lessen this wide-spread credulity? This problem, perhaps, will have to be relegated to the distant future for a proper solution.

To borrow Folly's cap and bells,
Though Wisdom oft descends,
Yet Folly to her cost doth find
That Wisdom never lends.
That Wisdom hath oft played the fool,
Is seen in every age;
But here the bargain ends, for ne'er
Hath Folly played the sage.

THE MAMMARY AND THE PAROTID GLANDS.*

JOHN B. SHOBER, M.D.

PHILADELPHIA.

I deeply appreciate the honor you have conferred upon me by your invitation to take part in this symposium. I have been asked to say a few words in regard to the therapeutic value of the mammary and the parotid glands in certain morbid conditions of the female pelvic organs. Upon the receipt of the invitation, my first impulse was to decline, because, although my clinical experience has greatly increased since the publication of my last paper on this subject, I felt that I had nothing new to say at this time. Upon further reflection, however, I decided to embrace the opportunity in order to point out and emphasize how these agents should not be used. I have always tried to be very clear in my statements as to the precise indications which in my experience call for their use, and yet I find that physicians all over the country are employing them for every conceivable malady of the female accompanied by dysmenorrhea and hemorrhage. An article appeared in a recent number of the *Boston Medical and Surgical Journal*, in which the writer stated that he had used the mammary gland in a case of adenocarcinoma of the uterus, and, although he mentioned that it was used before the true nature of the case was discovered, and with the idea of controlling hemorrhage, yet the article has been abstracted in a number of journals in a manner which makes it appear that I have advocated the use of this agent in cases of adenocarcinoma and that in this instance it had proved of no avail. It is only another example of the harm that is being done by the careless abstraction which is now so common. The point of the article above referred to was that the menorrhagia and metrorrhagia were partially controlled by the agent, in spite of the malignant nature of the disease—as soon as the diagnosis of the case was made operation was promptly and successfully performed.

The Mammary Gland.—I employ the mammary gland in the form of a tablet which is made of the desiccated gland of the sheep. Each tablet represent 20 grains of the fresh gland. The dose is from 3 to 6 tablets daily. I find that while it has no unpleasant systemic effects, it seems to have a very positive action on the uterus, causing contraction of the uterine muscle, in this manner diminishing the blood-supply to the body of the organ and thus controlling bleeding. Its action therefore is very similar to that of ergot and in my experience is far more reliable and surer in its action than ergot and can be used over much longer periods of time without causing unpleasant symptoms. In uterine fibroids, I

*Read before the New York County Medical Association, May 21, 1900.

have used it with much satisfaction for long periods of time, in cases which had been characterized by an excessive and weakening menorrhagia and metrorrhagia. The bleeding can be brought under control in a few weeks and if the treatment is persisted in, the mentrual periods become regular and normal and unaccompanied by clots and pain. The health of the patient improves commensurately with the improvement of the anemia, resulting in increase in body weight. The tumors themselves are inhibited in their growth and development and din inish in size up to a certain point. Tumors in which the nodules can not at first be distinguished will in a few weeks or months so shrink and alter that the several nodules which compose them can be readily differentiated and the whole mass becomes much more freely movable in the abdomino-pelvic cavity. Such being the case it is clear that we have at our command an agent by which we are able to place many of these patients in a far more favorable condition for operation than has been possible by any means at our command in the past and it may be that the constant use of the mammary gland by these patients will indefinitely postpone the necessity for operation in many instances. So long as we are able to prevent the further growth of these tumors and keep the menstrual periods normal and no degenerative or inflammatory changes take place in the tumor or the adnexa, we are not, in my opinion, justified in submitting these cases to a major operation. When, however, we have reason to believe that serious degenerative or inflammatory changes have taken place or when after a reasonable trial serious pressure-symptoms can not be brought under control, operation should not be delayed. In addition to the above class of fibroids I have used the mammary gland in many cases of subinvolution of the uterus from any cause unassociated with malignancy or structural changes, with marked success —many cases in which the uterine canal has measured three inches or over have come down a quarter or half an inch in 5 or 6 weeks. The leucorrhea and irregular bleedings cease and the backache and other reflex symptoms entirely disappear. These are the only classes of cases in which I have advised the use of mammary gland and yet I constantly hear of men using it in cancer, dysmenorrhea of ovarian or tubal origin or due to malpositions of the uterus, and what has astonished me most is its use by some in dysmenorrhea due to stenosis and in cases of amenorrhea.

The Partoid Gland.—This agent I have used in an entirely different and very much smaller class of cases. It is prepared in the same way, from the sheep, and should be employed in about the same doses as the mammary gland. Its principal action is its power to control ovarian pain and I have employed it with entire satisfaction in these cases of so-called ovarian neuralgia or dysmenorrhea unassociated with extensive pelvic inflammatory disease—cases in which, upon careful bimanual examination, will be found exquisitely tender and usually enlarged prolapsed ovaries with a history of soreness in one or both ovarian regions, often becoming greatly exaggerated a day or two before and during the first day of the period. The history of these symptoms extends over more or less extended periods of time. In these cases I have had astonishing results and have cured in a few weeks patients who have been sufferers for years. The pain disappears in a few days and if treatment is begun two or three weeks before the next period there will be a marked improvement noticed at that time, so that the patient's confidence is won at once and she needs no urging to persist in the treatment. The enlarged tender and prolapsed ovaries soon find their proper position in the pelvis and can be palpated bimanually without pain. When these cases are associated with inflammatory disease of the tubes, such as hydro-or pyo-salpinx with bound-down adherent ovaries, thickened and chronically inflamed tubes I do not think anything is to be gained by temporizing with this treatment. These are operation cases and in my opinion should be operated upon as soon as other well-recognized methods have been tried without avail. I have found that the partoid gland will, even in these cases, have a pronounced and very beneficial influence upon the pain, but it can not, nor can any other agent or method of treatment, overcome the gross structural changes which have taken place and which, in my opinion, call for prompt operation. These are the cases in which I hold that the parotid gland should not be used. The only class in which I have used it with entire success is that of uncomplicated ovaritis, which I have indicated. They are not frequently met with and therefore my experience with the use of parotid gland has not been as large as I should wish. I say these cases are not frequent and the reason I say so is this: I always make it a practice when I am uncertain in regard to the diagnosis to examine my patient under ether before starting the treatment, and I usually find conditions of the nature mentioned above which to my mind call for operation. Uncomplicated cases of ovaritis are quite rare. I would urge therefore that the diagnosis be assured before temporizing in these cases. Only to-day I found by operation an old ruptured extrauterine pregnancy of the left side in a patient to whom I had been giving parotid gland for a few weeks for what I thought was ovaritis. Not getting any result, I insisted on examination under ether and found a mass of circumscribed exudate. Operation revealed the bunched-up skeleton of a two-months fetus protruding from a partially ruptured sac and the remains of the placenta and membranes protruding from another opening in the shape of a grayish macerated round lump the size of a walnut. I would therefore advise that these agents be used only in the classifications which I have indicated, and when there is any doubt about the diagnosis, examination under ether should be insisted on. Finally, I beg to apologize for confining my remarks merely to the clinical side of the subject. I have not had the time or opportunity to take up any experimental work connected with it, but I hope some one else will.

The clinical showing would seem to indicate that experimental work directed along these lines would amply repay any investigator.

THE PROPHYLAXIS AND MANAGEMENT OF INTERSTITIAL NEPHRITIS.*

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CHICAGO.

Strictly speaking, the prophylaxis of interstitial nephritis must include some definite knowledge of the tendencies of the patient to the disease under consideration. This at once opens up a wide field, a large part of which is necessarily speculative or theoretical. Without entering into the speculative field, the pith of this question may be narrowed down for present purposes to the simple interrogatory: Can we predict, with any degree of accuracy, the case or class of cases that, under

*Read before the Chicago Society of Internal Medicine, June 28, 1900.

existing surroundings, will sooner or later develop into or terminate in, interstitial nephritis? If, in our present knowledge, a negative answer to this question is necessary, then the prophylaxis of interstitial nephritis necessarily becomes a myth, for, strictly interpreted, the term has only to do with prevention, and prevention is clearly impossible where we have no definite knowledge of the approach or tendency to disease. If, on the other hand, we are able to classify certain sets of cases that are prolific of interstitial nephritis as their terminal history, then we shall be able not only to render a positive and confirmatory answer to our interrogatory, but also to point out a prophylaxis for the disease.

In order to compass any tabulation of cases, as above suggested, we must first understand something of the principles of the cause or causes that bring about the disease in question. Now, all our pathologic knowledge of interstitial nephritis, our clinical observation, and the life histories of these cases, tend to the conclusion that the disease is led up to through an overwrought function of the kidneys. Of several hundred recorded cases of purely acquired interstitial nephritis, in my possession, the dominant features of the vast majority of the cases are comprised in the following historical triplet: heavy appetites, sedentary lives, and excessive use of proteid foods. It requires no great amount of reasoning to comprehend the law of nature, that an organ having subjected to it three or four times more work than it was designed to perform, must, if such conditions continue, inevitably become crippled in its functional power comparatively early in the natural span of life; and, moreover, the overwork continuing, the organ, indeed, must break down much within the usual compass of that span.

With regard to the kidneys, it has been determined that their chief function in the organism consists in elimination of nitrogenous waste; indeed, only a minimal portion of such waste ordinarily escapes through other channels—chiefly the lungs. In adult life a healthy man under physical exertion utilizes but about five ounces of proteid food per day, and the kidneys are designed to dispose of the waste of this ratio and remain healthy, other circumstances being equal. It is pertinent here to inquire: What happens to the kidneys of a man who habitually consumes from a pound to a pound and a half of animal food daily? The answer is simple enough, as the sequence of the histories of cases will show, viz., the excessive functional activity of the kidneys results in a chronic hyperemia, the consequent migration of the circulatory corpuscles; and from these, the organization and proliferation of new connective-tissue cells, in the intertubular spaces; as a necessary consequence of these changes, ultimate hardening and contraction of the organs follow—in short, interstitial nephritis.

There are doubtless other causes of this disease, for many conditions of the organism may throw into the circulation more or less foreign matter which the kidneys must remove, and in such cases, the tendency is the same, because the proximate results are the same, viz., overburdened function. But the dominant factor in the causation of acquired interstitial nephritis, for the most part, hinges upon two great central facts, viz., overingestion and overelimination of nitrogen; and these furnish the key and the most important principle to a true prophylaxis of the disease. In many diseases, if we remove the cause, the disease itself will subside; this is not altogether so when interstitial nephritis is once established, because the changes in the organs are of such a nature that they are as permanent as the changes wrought by gout in the joints. On the other hand, however, the removal of the cause in cases of acquired interstitial nephritis, notably in the early stages, often results in bringing the progress of the disease to a permanent standstill, which is well-nigh equivalent to cure.

From the above considerations, it seems clear that in all cases in which we have reason to fear the establishment of interstitial nephritis, the limitation of proteid foods should constitute our first and most essential principle in the establishment of prophylaxis. Reduce the proteid supply by limiting the allowance of animal foods to about four ounces per diem. In other words, butchers' meat should be limited strictly to one meal a day—dinner—and the quantity should not exceed a quarter of a pound. The leguminous vegetables, such as beans, peas, lentils, etc., should, for the most part, be avoided. In case the subject is stout, weighing over 175 pounds, some curtailment of carbohydrates should be suggested, such as the avoidance of oatmeal and the cereals in general, but permitting bread and potatoes. Observation has convinced me that in all cases sugar should be but sparingly permitted. The appetite should be restrained within normal limits. It is safe to say the average individual in robust health, with access to a bountiful table, habitually eats about 40 per cent. more than he uses. It has been found useful to direct such subjects to rise from the table feeling that they could eat more. The subjects of interstitial nephritis have almost invariably been heavy eaters; indeed, we have already called attention to the fact that this is one of the leading causes of the disease. This matter, therefore, should not be overlooked, as it often is, for it is as essential to limit the quantity as it is the quality of food in such subjects.

The next step in prophylaxis is to enforce some systematic daily exercise, in order that the proper ratio of waste products of the economy may be oxidized, thereby entailing the least strain upon the eliminative functions. In some cases an active muscular life is led, and in these this suggestion will be unnecessary. Too often, however, we have to deal with people of middle life, who have been sedentary all their lives. It is in this class of cases that the greatest possible discretion and judgment should be exercised in prescribing active exercise. Indeed, the sudden transformation from sedentary to very active habits in people of middle and advancing life is not without its attendant dangers — dangers which, it seems to me, are either overlooked or not generally understood, judging from the number of aged cyclists one has been wont to see about the streets the last few years. To me such pictures seem as grotesque and out of place as the imaginary one of a company of centenarians in a college campus playing football. In the class of cases under consideration I have always found it more satisfactory, first to adjust the intake to the natural habits of the individual, and, recognizing the difficulties of developing muscles after middle life, to begin with passive exercise and massage until some tone is acquired by the muscles; then walking, horseback riding and golf may be prescribed, with beneficial results.

A somewhat wide experience in cases of interstitial nephritis has conclusively shown me that it is a disease stamped in the strongest manner by heredity. If a series of careful investigations be instituted upon this point, it will at once appear how remarkably the disease

runs in certain families. Family history, therefore, furnishes us a clue to a large proportion of the cases suitable for prophylactic measures against the disease, and wise are both the subject and the physician who avail themselves of the warning afforded by the family history.

The second part of our subject, the management of interstitial nephritis when once established, comprises a field so wide, both in scope and detail, that only a few suggestions are possible in the present discussion. In the early stages the prophylactic measures already detailed are appropriate, only they should be somewhat more rigid. The proteids should be further reduced, say, to two or three ounces per diem; not much will be gained by further reduction. Some prefer to curtail the use of butchers' meat, and permit one meal daily of the lighter proteids, as poultry, fish, sweetbreads, frogs, etc.; milk with some seems to be the sheet-anchor, so far as diet is concerned. I must confess that personally I have never been friendly to milk cures in this disease. In my experience a milk diet disagrees sooner or later with four-fifths of people who try it. The large proportion of sugar contained therein—about an ounce to each pint—deranges the liver, and, moreover, constipation is a common result, thus seriously deranging both digestion and assimilation. At best, milk is but a starvation diet for an adult individual, and certainly it was never designed to nourish people beyond middle age. If a starvation diet must be employed—and at least a reducing diet is often advantageous in these cases—it is easy to supply one from other sources that will offer the patient greater variety and be more acceptable to the digestive organs than milk. For these reasons I rarely employ a milk diet in these cases. It has already been pointed out that the subjects of this disease, for the most part, are notoriously heavy eaters, and in most cases the amplitude of their bodies attests to their industry at the table. It seems impossible to quell or even modify the generous appetites of these people, and, therefore, the more politic and successful method of protecting them against the consequent evils is to order such foods as are bulky or filling but leave little nitrogenous waste. These are numerous, palatable, and, for the most part, easy of access and withal economical. They embrace nearly the whole range of green vegetables, tart fruits, cereals, etc., to which may ordinarily be added fish. The man of ungovernable appetite may be ordered much fat with his food; fat more quickly satisfies the appetite than any other article and it contains only about 2 per cent. of nitrogen.

In advanced interstitial nephritis the chief concern of the experienced physician will be the condition of the heart. Some years since I made a careful study of those conditions of the kidney which have been grouped together under the term of Bright's disease, until I flattered myself I was fairly well informed upon the subject; I soon found, however, in practical experience, that the majority of my cases of so-called Bright's disease died directly from heart disease. Since then, whatever measure of success I have had in the management of interstitial nephritis when once under way I attribute largely to my management of the associated cardiac disease. As is well known, at least 75 per cent. of the cases of interstitial nephritis are accompanied by a progressive enlargement of the left cardiac ventricle, and I have no hesitation in stating that in the large majority this heart lesion will vastly outrun the renal disease, and destroy the patient's life long before he would succumb to the renal lesion, unless special means be taken to prevent it, and for the following reasons: In the first place the kidneys are double organs, either of which, upon appropriate diet, will permit the extension of life indefinitely; in other words, the functional power of either kidney is sufficient to maintain life indefinitely under ordinary pressure. The anatomical changes in interstitial nephritis, as a rule, are very tardy in progress, and of such a nature as not to materially interfere with the function of unaffected areas of the organ. Consequently, the disease may, and often does, progress twenty or thirty years, until, indeed, the kidneys are markedly contracted, yet a fair degree of functional capacity remains—sufficient to permit life to continue indefinitely and in comparative comfort.

If, on the other hand, we watch the cardiac changes, when marked, we shall note an altogether more rapid and serious set of phenomena to which *per se* the patient must succumb. In consequence of increased friction in the circulation, the left cardiac ventricular wall enlarges to meet the extra demand upon its muscular power; the ventricular wall gradually becomes thickened, increasing the left cardiac area in the chest to 12, 14 or even 16 cm. from the midsternal line. Now, mere hypertrophy of the left cardiac ventricle, at first sight, would not seem so serious a matter, but wait and observe. Every case of cardiac hypertrophy, if its causes continue, sooner or later passes into degeneration of the cardiac muscle, after which the changes are rapid, widespread and lethal in tendency. Cardiac dilatation, with consequent valvular leakages, regurgitation into the lungs entailing *edema pulmonum* or pneumonia, and engorgement and enlargement of the liver, and dropsy are a few of the consequences likely to succeed the above phenomena without delay. I am well acquainted with these morbid phenomena, because it is at this stage of the disease that the specialist is often ushered in at the front door—all hope having shortly before been ushered out by the side door. If we wait until this stage of interstitial nephritis is developed, one management is practically as good as another. It therefore becomes pertinent to inquire what can be done to prevent advanced cardiac complications in interstitial nephritis? I answer: Much, very much, can be done.

There is no class of diseases familiar to the profession in which more can be done to relieve and prolong life than in cardiac diseases, thanks to very recent advances in our knowledge upon this subject. Cardiac complications of interstitial nephritis form no exception to this statement, provided treatment is begun sufficiently early. The first principle in the management of the cardiac complications of interstitial nephritis should consist in modifying the abnormal friction in the circulation. If this is done the cardiac hypertrophy will subside, provided that it has not gone too far and that the arteries have not become extensively atheromatous. The area of cardiac dulness must first be mapped out in all cases of interstitial nephritis; if the left area does not exceed 12 or 13 cm., as measured from the midsternal line, the rule obtains quite constantly that upon a non-nitrogenous diet, as rigid as we can draw it, coupled with saline laxatives, the hypertrophy will subside rapidly, thus avoiding the more advanced and more threatening cardiac danger. Over and over again, I have succeeded by strict measures in reducing the area of the left ventricle by at least 3 cm. in six months' course of treatment. A left ventricle, however, once decidedly hypertrophied in interstitial nephritis, so that the left area measures 14 cm., strictly speaking, probably never quite returns to its original or normal measurement of 9 cm.,

but usually remains at about 10 cm., at least such is my experience, nor have I usually found this slight remaining thickening any special bar to a subsequent long and efficient cardiac life. Some tension in the circulation remains, it is true, probably due to changes in the arterial walls, but moderate tension only tends to restore the waning balance of renal excretion.

Let us suppose, however, that the cardiac complication has reached a more extreme degree before the case has come under observation, and that the left cardiac area measures 15 or 16 cm. from the midline. We are now face to face with altogether different conditions, in most cases including more or less dilatation of the left ventricle, perhaps with some leakage of the mitrals; in short, degenerative changes have begun in the cardiac muscle. The physical forces of the heart have now become reduced below par, and we no longer find evidences of exalted circulatory power. The urine falls off in volume, the patient no longer rises at night to urinate, the pulse grows weaker, though the arteries be hard.

The indications now are clear to improve the tone and nutrition of the heart, to relieve it of as much of its labor as possible. With the view of relieving the strain upon the cardiac muscle, in addition to rigid dietary measures, the small vessels should be dilated by means of the iodids and nitrites. A moderate dose of digitalis, say ten drops of the tincture, morning and evening, tends to improve cardiac nutrition and tone, the latter being much assisted by the use of strychnin. Absolute quietude should be enjoined for from four to six weeks, until the heart has regained its tone, or at least is in a measure equal to its work, after which quiescence is likely to be rather harmful than otherwise. However, before permitting the patient to get about again unrestrained, a course of cardiac gymnastics, after the method of Schott, coupled with, or followed by, the Nauheim baths, is often of the greatest benefit. The extremely hypertrophied hearts, under present consideration, can never be reduced to near normal dimensions, attended, as they usually are, by more or less dilatation, consequent to cardiac degeneration; nevertheless, the degree of cardiac power and tone that can be restored in well-managed cases is often remarkable. Not long since such cases were considered absolutely hopeless, even of temporary improvement. I have succeeded, however, in a fair proportion of such cases, in securing to the patient a few years of comparatively comfortable life.

When once dropsy sets in and becomes established, as a rule, the beginning of the end is reached. Confinement to bed is now imperative, coupled with cardiac tonics and stimulants, such as digitalis, strophanthus, etc., in full doses. There is no hope of re-establishing the renal function unless some power can be restored to the circulatory forces. Too often we are obliged to fall back upon diaphoretics in order to assist the kidneys in elimination, but the fight from this on is always a losing one.

The present discussion does not permit of sufficient time to enter into the many additional measures to be employed in the management of interstitial nephritis; perhaps a future occasion may present itself to consider these. I have purposely directed the present discussion along what may be considered, in part at least, unusual though important lines, viz., the cardiac complications of the disease. In closing, I would state as my strongest convictions, based on careful observation, that, as a general fact, he who most skillfully manages the cardiac complications of interstitial nephritis in all its stages will best succeed in prolonging the lives of his patients.

[For discussion see page 248.]

HOSPITAL AND WARD CLINICAL LABORATORIES.*

C. N. B. CAMAC, M.D.

NEW YORK.

When I was given the opportunity some months ago by the chairman of this Section to present a paper before the Association, I was and am still interested in the subject expressed in the title of this paper—"Hospital and Ward Clinical Laboratories." I hesitated, however, in bringing such a subject before you, as I felt that a report upon work done along medical lines would form a more appropriate paper. I submitted this question of the propriety of the subject to your chairman, and upon receiving his approval and encouragement felt reassured.

I feel, nevertheless, that a subject touching the administration of a hospital, as this does, must be discussed by those who have experience in hospital management. The points, therefore, set forth in this paper represent the immediate needs of the visiting physician and teacher; these points, however, must be placed before those who are competent to speak for the administrative side of the hospital. I trust that I have made it clear at the outset that I am speaking from the standpoint of the clinician.

As one reads the reports upon the epoch-making contributions to medical science, one is impressed by the exalted estimation which ushers in many, but not all, of these; then how the voices of critics disparage these estimates, which perhaps may have been the creation of other critics, and then how the contribution settles down into its right place to be a great or a small part of the whole. As each new branch of scientific medicine has come into existence the same enthusiasm has flustered and shouted about its birth, claiming for it all manner of honor and usefulness.

Histology, embryology, bacteriology, the systematic study of pathology, etc.—and the same is true of the subdivisions of these subjects—each in turn at its inception was declared to be the future revolutionizer of medicine. Each has settled into its proper place to be a part of the whole structure, each stone of which depends upon its fellow for support; or to select a simile more familiar to our thinking, it would seem to follow the division of labor or the specializing of functions, each cell, each part, doing its share and yet working in conjunction with every other part. When Laennec, and, later, Louis, introduced the system of physical diagnosis, the most exorbitant claims were made for it. The stethoscope, at first the oracle of all the secrets of the chest, later became the retreat of the bluebottle fly, and then again the recognized instrument, with its limitations, of the clinician. So with the clinical thermometer, the hypodermic needle, the fluoroscope, the radiograph, etc.; so also with the findings of the clinical laboratory.

Rarely in our science is it that any one finding is the open sesame to the secrets of disease. Excepting, perhaps, the finding of the tubercle bacillus, the malarial parasite and a few others, no observation in medicine alone tells the whole story. Because an observation represents but a fraction of the whole truth, many clinicians have been impatient with the methods which enable us to obtain that fraction. Because the methods which enable us to detect an anemia do not also detect the cause of the anemia, the methods are said to be faulty; because the tubercle bacillus is sometimes not detected when pul-

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

monary tuberculosis exists, the search, some clinicians would say, need only be made if the clinician wishes to leave no stone unturned. Because the serum diagnosis of typhoid fever is not to be detected until the fifth day, and sometimes not till much later, is this fraction of the truth to be discarded? May there not be here some new truth, the full significance of which we have not as yet appreciated? Because, by the aid of a clinical thermometer, a definite ratio between pulse, respiration and temperature can be determined, we do not abandon it when, as in scarlet fever or pneumonia, we find this ratio disturbed; on the contrary, we interpret the finding with new significance as an additional aid to diagnosis. We do not omit auscultation when percussion seems to tell us the whole story. So, though our physical examination may appear to suffice, our microscopic and bacteriological examinations must, too, be taken in conjunction

Prof. V. Jaksch's Clinical Laboratory, Prague.
Microscopical Laboratory.

with these findings, a consensus of opinion taken, and our diagnosis made accordingly. Each observation goes to make up the whole—the clinical thermometer, the stethoscope, the blood examination, each employed in turn, no one complete in itself, but the complement of the others. There is, therefore, no claim for the clinical laboratory beyond that it contributes essential facts, which, taken together with other clinical findings, enable the physician and surgeon to arrive at the truth or nearer the truth.

If one takes a broad view of the development of medical knowledge it will be seen that now is the full time for the birth of this new child of science—the ward clinical laboratory.

HISTORICAL OUTLINE OF LABORATORIES.

The time has passed in which learned men were content with mere logical conclusions, high-sounding names and mysterious pursuits. The alchemist's articles of faith were:

1. There exists a preparation, solid in form and red in color, called the *philosopher's stone*, the *grand elixir—majus magisterium*— the *red tincture*, which, when it is placed in very small doses on melted liquid silver, mercury, lead, or some other common metal, causes a transmutation of the same into gold.

2. The same preparation, used in very small doses as a medicine, cures all diseases, rejuvenates the old and prolongs life—wherefore it is called the *panacea of life*—also because it contains the essence of gold—aurum potabile.

3. There is another preparation, of a white color, called the stone of the second degree, the *little tincture—minus magisterium—the white tincture*, which is equal to the first in half a degree of perfection and changes the common metals to silver.

This creed, the ignis fatuus of the alchemist, leading him blindly through the world of facts, was replaced, alas! by that other, the Philosopher's Stone, the Vital Force, the Pneuma, and finally by the torch of truth, flooding with light the dark places. This torch of truth is the determination of the human mind to see and therefore to know; to see, not through the oft-befogged medium of logic, but through the clear atmosphere of experiment. When the human mind determined this—and it has not been long that it has thus determined so—the real scientist, he who would know the truth, had his birth. Superstition gave place to unrestrained investigation; the magician became the scientist; the alchemist became the chemist. With the purpose of experimenting in the human mind the necessity for workshops became evident. From Stahl and Lavoisier, from Steele and Berzelius, from Gay Lussac, giving inspiration, and Liebig, the mind turns to those who worked more in medical lines, to Harvey, Descartes and Haller, who can not be given greater place as founders of the laboratory than the great chemists before mentioned, for with them it was that the spirit of investigation and experiment gave life to the whole movement. Hand in hand with the establishment of chemical laboratories but more encumbered by superstition, came the anatomical theaters; farther along the line of time the clinic, and then in the early part of our present century the physiologic laboratory—the first of which we find at Breslau in 1825 (Purkinje), Vierordt, Tübingen, 1864-5—which, as Dr. Welch says, and which might well be said of all laboratories, is productive of a knowledge, "the best corrective of pseudo-scientific, irrational theories and practice, in medicine." Then followed the development of the first pathologic laboratory in Berlin, by Virchow, in 1856.

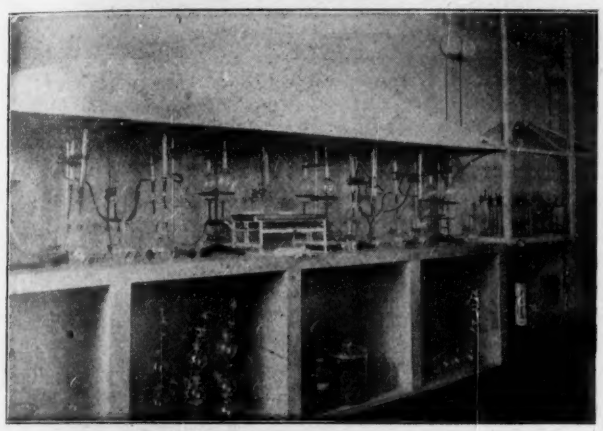
In the opening of the William Pepper clinical laboratory at Philadelphia, 1896, Dr. Welch quotes Virchow as having said: "In the seventeenth century, anatomical theaters; in the eighteenth, clinics; in the first half of the nineteenth century, physiological institutes; so now the time has come to call into existence pathological instititutes and to make them as accessible as possible to all." Since then has not the clinical laboratory reached its limit of usefulness, and now, is not this the time when all this vast amount of work, clinical, anatomic, physiologic and pathologic, shall be applied to the bedside? Is not this the time for the practical application of all these researches?

I am quite aware that the idea of practical is as distasteful to a certain class of scientists as is the word "wine" to the temperance lecturer—alcohol may be

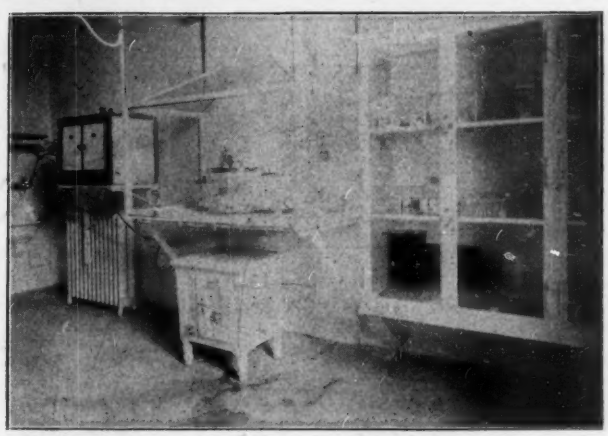
rubbed in from without, must not be taken internally; such scientists remind one of Carlyle's description, in his "French Revolution," of Madame Momoro, whom the French convention of 1793 enthroned at Notre Dame as the Goddess of Reason. Carlyle says of her, she made one of the best goddesses, but her teeth were defective. This kind of science is a beautiful thing, but it lacks the practical bent, it lacks teeth, without which it can not feed upon that which gives force to the whole.

Shall we go back to those dark days, when it was merely a quest for the solution of a mystery, the finding of the majus magisterium, or have we the larger purpose of applying this solution, of interpreting this discovery? Shall our knowledge be an ornament or an instrument? If the spirit of quest for truth quickened the work of Bernard and his confrères, Gréhaut, Du Montpallier, Malassez and d'Arsonval, in their ill-equipped shops, the application of these truths should quicken our work to-day.

The subject, therefore, of our investigation as clinicians is not disease in the abstract, but the sick man and woman and the sick child. It is not the study of the principle underlying the staining peculiarities of the tubercle bacillus, but the availability of this method in the detection of tuberculosis in this and that form of the disease. It is not, therefore, the sputum, for example, alone that we examine; it is this in conjunction with the physical finding, the temperature chart, the degree of emaciation, etc., to be made only in the sick-room by the patient's side. Our workshop is therefore the sick-room, the hospital ward, the dispensary.



Prof. V. Jaksch's Clinical Laboratory, Prague.
Chemical Laboratory.



Prof. V. Jaksch's Clinical Laboratory, Prague.
Bacteriological Laboratory.

DIFFERENCE BETWEEN PATHOLOGIC, CLINICAL AND HOSPITAL WARD LABORATORIES.

By thus recording conditions in detail, information upon disease as a whole may be obtained by bringing together these records. The subject of this paper, it will therefore be observed, is not the clinical laboratory, but the hospital and ward clinical laboratory. The former is a recognized factor in medicine to-day. In Berlin, Prague, Vienna, Munich, Leipsic, Paris, London, Philadelphia, Boston, Baltimore, New York and in many other cities are to be found well-equipped clinical laboratories, all having sprung into life in the short space of about 20 years. Among the first of these was that of Von Ziemssen, in Munich (1895), and that of Curchman, in Leipsic (1892). Not so numerous are the hospital clinical laboratories. There would at first sight seem to be a difference without a distinction between these terms. There is, however, this clear distinction: the clinical laboratory, now of some years' standing, is the offspring of the anatomic, chemical, pathologic and physiologic laboratory, and the hospital clinical laboratory is the child of the clinical laboratory—each separate from the other, yet dependent on, and a direct outcome from, the other. It may be looked on as a process of simplification. Large problems worked out in the chemical, anatomic, physiologic and pathologic laboratories have been reduced to simple methods, applicable to the detection of disease *per vitam*. The clinical laboratory has taken up these and still further simplified the methods until the hospital or ward clinical laboratory may apply them at the bedside. The hos-

pital clinical laboratory is the workshop where the methods planned and perfected in the other laboratories are applied and given a practical test. To make this difference more clear, I show photographs of the elaborately equipped clinical laboratories of Profs. Von Jaksch, Ewald and Leyden, so as to compare them with the simple ward laboratories.

OBJECTIONS TO LABORATORIES.

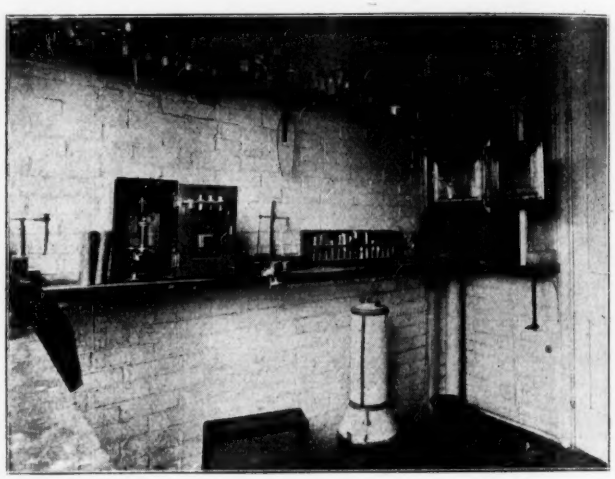
But, it will be urged, do we need hospital or ward clinical laboratories? Are they not the adjuncts of wealthy medical schools and hospitals only? Are they not a scientific luxury? Can it be said that the facilities afforded by such laboratories are luxuries? If the patient who escapes operation for supposed appendicitis because a moment before the operation the blood was found to contain malarial parasites; if the patient lying in supposed typhoid has a needle inserted into the liver, where an amebic abscess is found; if these patients do not benefit by such laboratories, they may be termed luxuries. They are essential, however, if only to spare the typhoid ulcer the unlimited diet of quinin. I select these cases from those actually occurring in hospitals where facilities for clinical microscopic examination were not supplied and where such procedure is not considered a refinement.

Professor Leyden's Clinical Laboratory, Charité, Berlin.

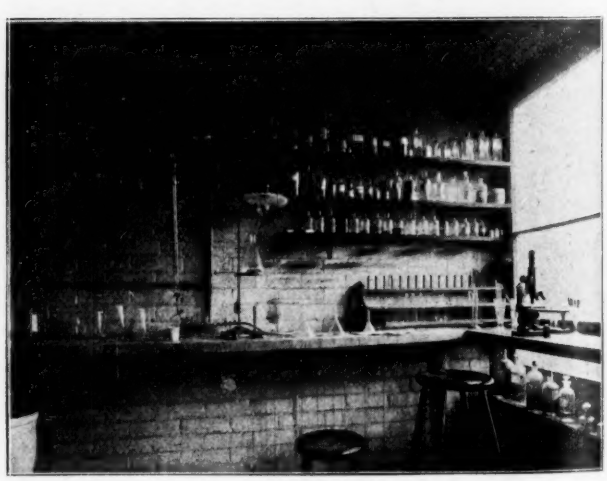
Professor Ewald's Clinical Laboratory. Augusta Spital, Berlin.

There are, however, those who will still object, and from information obtained in conversation and otherwise, the objections would seem to fall under the following four heads: 1. They are not necessary because diagnosis can be made quite as satisfactorily without these tests. "Scientific luxuries" would, I think, express the opinion of those who raise this objection. 2. They require space. 3. They are expensive. 4. The hospital interne is busy enough without putting this extra work upon him.

The first of these objections, that they are "scientific luxuries," has been already dealt with. It is well, however, to repeat that these methods are taken in connection with all the bedside methods known to clinicians, and no claim of an "all-sufficient" is made for them. The physical examination of the chest is not to be abandoned because the tubercle bacilli are found in the sputum. It is important to impress this, for visiting physicians have complained, and not without ground, that the internes consider these laboratory examinations all-sufficient, and grow lax in making their physical examination, and less acute in their observations. This is a misuse and abuse which does not in any way diminish the value of each observation. Let it be clearly understood that there is no claim of all-sufficient in this work. The very spirit of the movement in favor of ward laboratories is that the microscopic work should be brought in greater proximity to the patient, and the finding be thus taken in connection with and considered a part of other clinical findings.



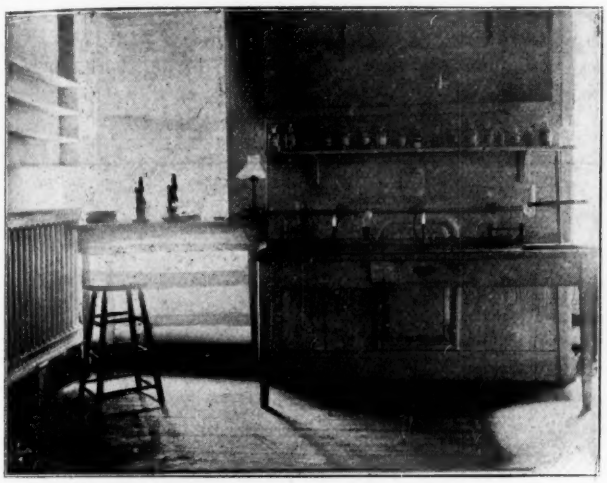
Toronto General Hospital, Clinical Laboratory—east side.



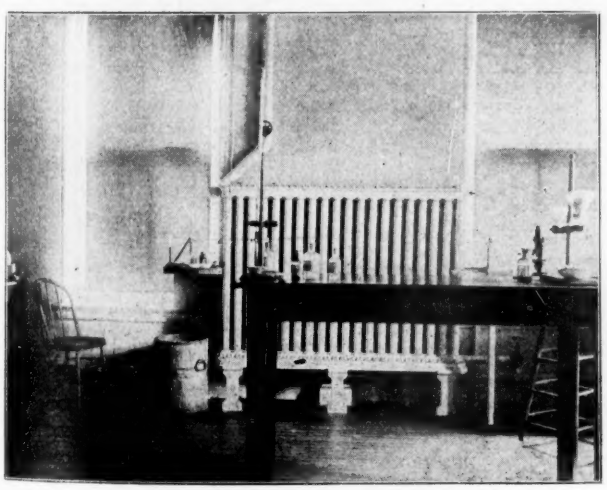
Toronto General Hospital, Clinical Laboratory—west side.

The second objection is that they require space. The

clinical laboratory, with its complicated chemical apparatus, spectroscope and polariscope, nitrogen-estimating apparatus, etc., does require space. But the distinction between the clinical laboratory and the hospital and ward clinical laboratory already pointed out, must be borne in mind. Only the perfected and simplified methods and apparatus have place in the hospital and ward clinical laboratory. This apparatus and these methods are of such simple nature that they can be transported to the bedside. It does not, therefore, require much space to accommodate them. With the hearty cooperation of the authorities, the writer established such ward laboratories at Johns Hopkins Hospital in 1896, and at Bellevue Hosptal in 1899. The area required for this ward laboratory is about 6x6 to 10x10 feet, a window being the only essential. Indeed, a window and



Johns Hopkins Hospital, Baltimore.
Hospital Clinical Laboratory. For More Extensive Tests, Etc. Room, 12x12 ft. (about.)



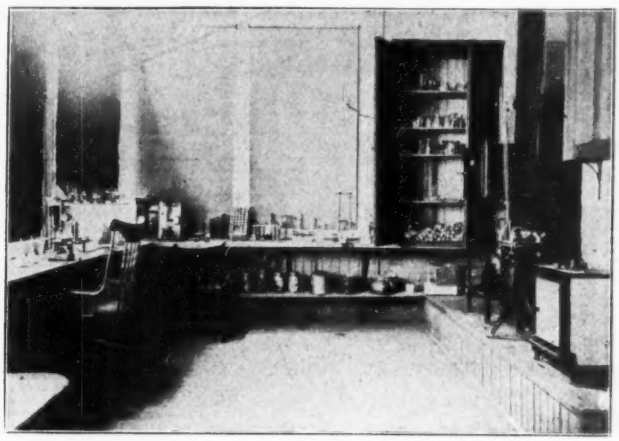
Johns Hopkins Hospital, Baltimore.
Special Research Room.

table are the only essentials in the matter of space. While running water and gas are helpful adjuncts, the ordinary water-bottle and spirit-lamp are all that is necessary. Probably no part of a hospital is more modest in its demands that the ward laboratory.

I should like to take this occasion to express my appreciation of the encouragement given in the establishment of such ward laboratories by Drs. Osler and Hurd, at the Johns Hopkins Hospital, and by Drs. W. G. Thompson and C. L. Dana at Bellevue Hospital. I have just learned from Dr. Beverly Robinson that such ward laboratories are shortly to be established at St. Luke's Hospital, New York City. I also learn that the Royal Infirmary at Edinburgh, and St. George's Hospital, London, have similar ward laboratories. In the clinics of Profs. Leyden, Senator, Naunyn and Gerhardt, in Europe, these ward laboratories are in use for the minor examinations.

We may, therefore, eliminate the objection of "too much space required." It is understood that there are in addition to these the largely equipped laboratories for more extensive work, but these latter are part of the teaching institutions connected with the hospital. The small laboratory just described is a distinct feature of the ward and its administration.

That such laboratories are expensive, constitutes the

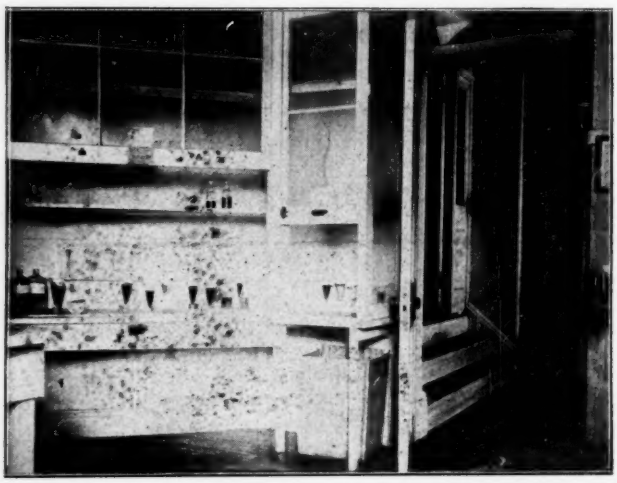


Victoria Hospital for Sick Children, Toronto, Canada. Clinical Laboratory—South End.

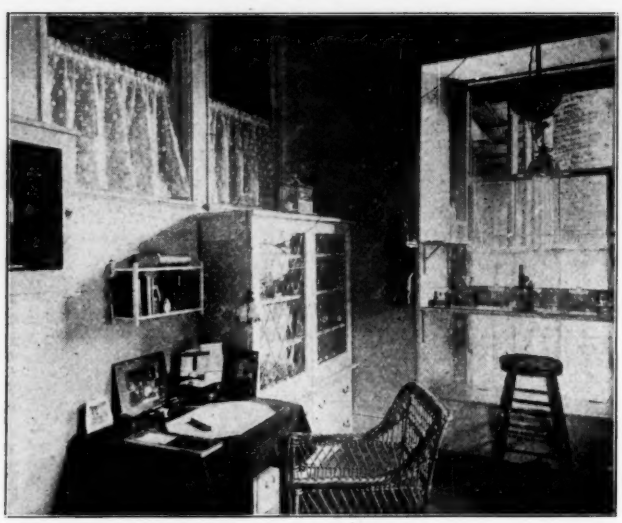
Johns Hopkins Hospital, Baltimore.
Ward Laboratory. Bed on left. Cabinet for Reagents and Apparatus on right.

third objection. I have carefully gone over the bills connected with the establishment of the laboratories above mentioned, and find that $300 will fully equip such a laboratory. Included in this are two large items —a microscope with an oil-immersion lens and a cabinet in which apparatus is to be kept. These two together would come to $125 or $150. While considerable modification can be made in cost of the case, the microscope is a necessary expense, the price of which varies but little. Most hospitals, however, have gotten as far as a

microscope, at least, so that we will find that already provided. Glass-top tables, with green felting beneath, have proved most satisfactory in both Johns Hopkins and Bellevue. This is not very expensive—$9 to $10 for a table 5x3 feet. This allows of the table being washed off freely, keeping the appearance of the laboratory clean. It is surprising what an influence this simple provision has on those working in the laboratory to keep it clean. Such is the effect of this that it has done away with what was a very serious objection, namely, the presence of a dirty laboratory directly in the ward. The same cleanliness observed in the operating-room and ward must be observed in the ward laboratory. A rather



Johns Hopkins Hospital, Baltimore.
Hood for Urine Specimens. Laboratory Established in 1897.



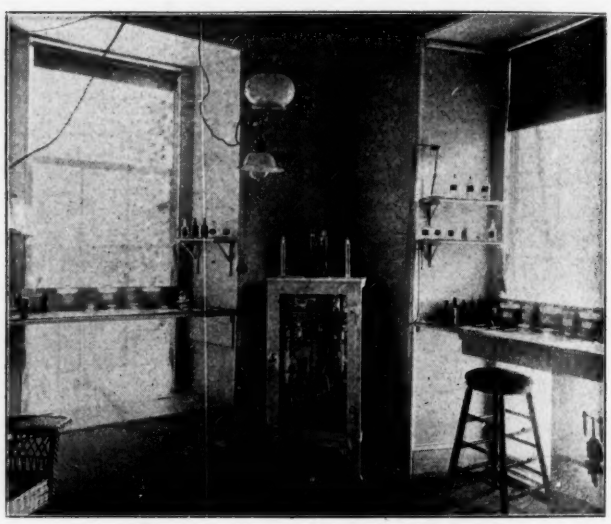
Bellevue Hospital, New York City.
Ward Laboratory. On left—Table for Record-making, Bookcase for Clinical Books, Medicine Case. On right—Glass-top Table for Blood Work, Etc.

feeble, but in appearance forcible, objection has been raised by some authorities that patients may drink some of the poisonous reagents. This is overcome by having these reagents locked away in the case, as are the drugs.

A wretched difficulty, which one is almost ashamed to mention, but which nevertheless exists, is the appropriation of apparatus by members of the interne staff. This matter scarcely comes within the province of this paper beyond mentioning it and calling attention to the proper authorities for its correction, namely, the examining board, in ascertaining more correctly the character of applicants for the position of interneship.

The maintenance of the laboratory can well be accomplished on $50 a year. Dr. Fritcher informs me that at Johns Hopkins Hospital the cost of maintenance is $75 a year. Dr. Cabot kindly informs me that $30 is all that is required for the maintenance of his laboratory at the Massachusetts General Hospital, Boston. It has, I hope, been satisfactorily shown that the laboratory is a necessity; that it requires little space, and that it is moderate in expense both to establish and maintain.

The fourth objection, that the clinical tests occupy too much time, is a serious one, and requires much more discussion than can be given here. The hospital interne to-day is much in the same position as the medical student of a few years back, who was allowed to graduate in three years. New subjects, histology, bacteriology, pathologic histology, hygiene, experimental physiology, etc., were added to his requirements, but the length of the curriculum was not increased commensurately with this increase; consequently his medical course was a feast of reason, a large proportion of which he was gulping down and never digesting. The



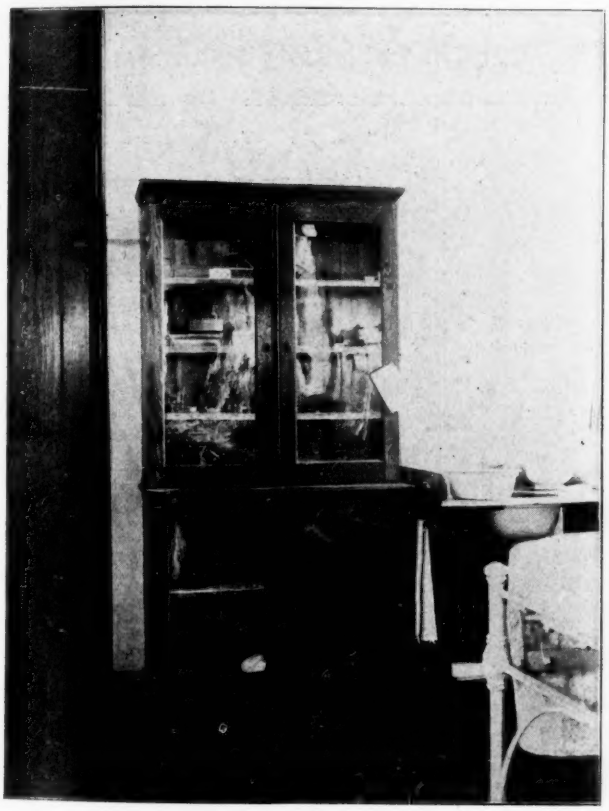
Bellevue Hospital, New York City.
Ward Laboratory (another view of above). On left—Glass-top Table and Shelves for Blood Work, Etc. Center—Cabinet for Reagents and Apparatus. (spring-lock door.) On right—Glass-top Table and Shelves for Urine, Sputum Work, Etc.
Established January, 1900.

uncomplaining, enthusiastic, conscientious interne does not realize until nearly the end of his interneship that a large part of his time has been spent in history taking. Blood work takes time, and if attempted it is slurred. This is because the work of to-day in hospitals is far greater than that of ten years ago, but the interne staff has not been increased commensurately with the increase of work. The remedy for this is that there should be in large hospitals a bacteriologist interne, and a clinical microscopist and a chemical interne. This position in small hospitals could be combined in one interne. But it is a fact beyond dispute that the senior and junior internes, and the interne in charge of a ward, can not possibly be responsible for the bacteriologic and microclinical work and keep their records up at the same time. The hospital interne is a very responsible officer, not only from a humane point of view, but from a scientific viewpoint as well. He is the observer constantly on hand; from his observations, carefully noted, we should be able to read the story of the disease. Unless his work be so ordered that the visiting physician can insist upon

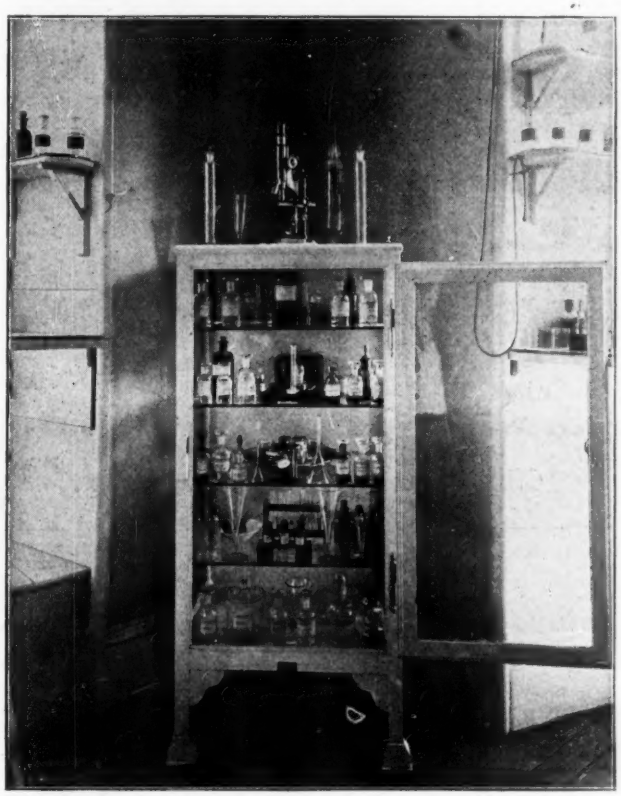
such records, his notes are nothing more than fiction. The observations and records should be in the hands of the senior, junior and ward internes, the bacteriologic and microclinical work being done and recorded with equal care by one or two internes, whose sole duty is this work.

ADVANTAGES OF SUCH LABORATORIES AND WORK.

It has often been contended that good work will be done in spite of poor surroundings. This must be admitted even in those branches of human pursuit depending most on inspiration. The master mind makes its own way. Handel and Beethoven on the expressionless spinnet composed music which the improved instruments of to-day show must have existed in the minds only of these great musicians; while the commonplace mind of Nero must needs have Rome aflame for inspiration which failed to appear in even so terrible a spectacle. This is indeed true, but where there is one Harvey and one Bernard there are a hundred commonplace minds which, if given some encouragement, will develop into valuable observers. The laboratory, then, increases our army of workers one hundred fold. Need we look further for an explanation for the vast strides made since laboratories have become recognized parts of medical schools. Another advantage of such laboratories is the accuracy of diagnosis and the directness of treatment. This is beyond dispute and may be dismissed with the mere mention. The only opposition, however, to this statement is that negative results so often accompany the microscopic examination. While this is true, yet when the negative finding is not in itself an aid as excluding some suspected condition, the constant observation leads not infrequently to the finding of objects not at first discerned, and which in themselves constitute diagnostic aids. The development of the eye is yet in its infancy when its field of vision is that seen through the microscope—when through generations the eye has become accustomed to observe this new world, may not new objects become discernible? Should not, therefore, the spirit of constant observation be inculcated and every object of well-known significance be noted? This brings us to the third advantage of such laboratory work—accurate taking of records. "A book," says an editorial in the *Journal of Science,* "at best is but a useful adjunct in science." It is, however, the heritage of one generation to another, and it is the starting-point for the next observer. The German mind, content to concentrate itself upon one small but essential part of the structure of science, until it be well formed and set in place, is a greater contributor to the edifice than he who throws ever so strong a light upon that portion already built. The well-taken record is the material from which the stones for further construction must be selected.



Johns Hopkins Hospital, Baltimore.
Ward Instrument Cabinet.



Bellevue Hospital, New York City.
Cabinet for Reagents and Apparatus in Bellevue Ward Laboratory.
Established January, 1900.

What better place than the bedside laboratory for obtaining the material for such construction? Knowledge is not acquired, as Ambrose Paré says, "by sitting in a chair and thinking, but by years of hard, practical labor." And we may add, as he indeed added, by making careful records. A few practical clinical books have been placed in the ward clinical laboratory, and we have prepared record sheets containing a complete list of all objects to be seen in the various subjects of clinical, microscopic, bacteriologic and chemical observation, whether they have a known significance or not. The object of such records is that we may later draw conclusions coupling these observations with the other bedside findings.

Is such record-taking confined to the bedside—to the ward—may it not with advantage be extended to the dispensaries? Dr. Cabot, in the Massachusetts General

Hospital, has already done this, and his photographs, which he has kindly sent me, show such a workshop in the outpatient department during the busy hours of the

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

BLOOD.

Red Blood Corpuscles

- Size: Normal (μ=1-2500 of an inch) 7μ; Microcytes; Macrocytes
- Shape: Normal; Poikilocytes; Crinated
- Color: Normal. Pale Yellow. Colorless. Shadow Corpuscle. Vacuolated (Areas defic. in Haemogl)
- Nucleated: Normoblasts; Megaloblasts
- Number: per cubic millimeter (normal 5,000,000) — Gower's; Thomazeus
- Malarial Parasite: Hyaline (Amoeboid; Non Amoeboid) body
  - Pigmented: Intracellular (grown; grown; Full grown; Pigment motile); Extracellular (Non flagellating; Flagellating; Pigment motile)
  - Segmenting
  - Crescents — Pigment motile; Flagellating
  - Round bodies — Pigment motile; Flagellating

Haemoglobin

- Gower's Haemoglobinometer
- Specific Gravity Method
- Von Fleischel's Haemoglobinometer
- Oliver's Haemoglobinometer
- Color Index

White Blood Corpuscles.

- per cubic millimeter 6,000 to 10,000 normal. — Gower's; Daland's; Thoma Zeiss; Oliver's
- Normal
- Small mononuclear lymphocyte 15–28 per cent.
- Large " " 6–8 "
- Transitional " " 2–4 "
- Polynuclear " Neutrophil 75–60 "
- " Eosinophil 2–3 "
- Myelocyte
- Eosinophilic myelocyte
- Mastzell

Plates.

Fibrin.

Blood Dust.

Coagulation time. Gross test; Wright's Coagulometer tubes. Normal, 2–3 min.

No. 1.

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

Sero Diagnosis of Typhoid

	5 min.	15 min.	30 min.	Remark.
Dilution 1 in 20				
" 1 in 30				
" 1 in 40				
" 1 in 50				
" 1 in 60				
" 1 in 70				

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

SPUTUM.

- Quantity
- Odor
- Sediment: Quantity; Appearance; Color
- Pus: Quantity; Polynuclear Neutrophiles; " Eosinophiles
- Alveolar Cells: Myelin degeneration; Heart-failure cells; Dust cells
- Elastic Tissue
- Tubercle Bacilli
- Charcot-Leyden Crystals
- Curschman Spirals
- Diplococci

System of Records to be Employed in Bellevue Hospital, New York City. (Cornell Division.)

dispensary. While the writer was in charge of the heart and lung clinic of Bellevue Hospital, no case of suspected pulmonary tuberculosis or malaria had a diagnosis made until the sputum in the one case, and the blood in the other, were examined. As no facilities for microscopic work were obtainable in the dispensary, it was necessary to take the patient for this purpose across the street to the Loomis Laboratory, and in eight months, with one assistant, 129 cases were so examined.

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

SECRETIONS ASPIRATED FLUIDS and FÆCES.

Source of Material for Exam.

- Pus
- Streptococci
- Staphylococci
- Gonococci
- Diphtheria bacilli
- Tubercle
- Typhoid
- Amoeba coli
- Mucous
- Intestinal Parasites
- Albumen
- Specific gravity

No. 1.

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

Gastric Contents and Vomitus

- Quantity received
- Amount of Filtrate
- " Precipitate
- Odor
- Color
- Appearance

Test Meal

- Reaction: Litmus; Congo Red; Tropaeolin
- Free Hydrochloric Acid: Gunzburg's reagent (Coarse test); Dimethylamidoazobourgh (Delicate test)

Hour administered

- Lactic Acid: Uffleman's reagent; Boas test

extracted

- Total acidity. Dicinormal Na Ho Sol 4–6 cc required for normal contents

Microscopic Poisons

No. 1.

Clinical Laboratory Examination.

Name, ... Date, ...

Address, ...

Examination for Dr. .....

Urine

Gross.

- Voided
- Catheterized
- Amount in 24 hours
- Color
- Sediment. Quantity; Quality

Chemical.

- Specific gravity
- Reaction
- Albumen: Nitric Acid; Boiling — Qualitative; Esbach's Albumometer — Quantative
- Sugar: Fehling's; Phenylhydrazin — Qualitative
- " Fehling's; Pavy's; Roberts's — Quantitative
- Chlorides
- Phosphates
- Urates
- Uric Acid
- Bile
- Iodiçan
- Acetone
- Diacetic Acid
- Diazo reaction

Microscopic.

- Cylindroids
- Casts— Hyaline; Granular; Epithelium; Blood; Pus
- Phosphates
- Urates
- Uric Acid
- Bacteriology of

System of Records to be Employed in Bellevue Hospital, New York City. (Cornell Division.)

Among the cases thus examined were estivo-autumnal malaria, having its origin in New York City; Hodgkins' disease, which was subsequently followed to autopsy; lymphatic leukemia, splenomedullary leukemia, Addison's disease, also followed to autopsy; empyema, abscess of the lungs, pneumoconiosis, in which steel fil-

ings formed the dust element and gave rise to a fibroid phthisis; tubercular leprosy in a youth 16 years old, from whom the lepra bacillus was readily obtained; these, besides many cases of malaria of the ordinary type, and anemias formed the interesting findings. May we not from such records detect the beginning of disease while yet not sufficiently advanced to incapacitate the patient? May not diseases called rare, because seldom under systematic observation, be thus found frequently enough? Have we not examples of this in the leukemias, malaria, Addison's disease and others? Is it unreasonable to conclude that,with facilities for such work and adequate assistance, valuable records could be obtained from the outpatient department? The last advantage which is to be noted in these laboratories is, perhaps, when combined with that of the records, of vast importance. I refer to the following of cases to autopsy. The pathologist is independent of the clinician, but the clinician reads the answer to all his questions in his observations and notes at the autopsy table only. The break in the chain between the clinician and the pathologist has existed only since the pathologist became a specialist. The busy practicing physician who is a hospital visitant has not the time to follow to autopsy his cases. He should,

Johns Hopkins Hospital, Baltimore.
Record Room.

have the benefit of well-taken records and the diseased viscera should be preserved and shown to him. The link connecting these important departments, clinical and pathological, seems to be the department of clinical pathology. The officer in charge of this work should have access to the wards and the autopsy room. He and his assistants should watch the cases throughout, interpreting the findings at the bedside, by those in the autopsy room. As one attempts to estimate the value of such a system, well carried out, can doubt arise that the time is ripe for a ward clinical laboratory? Is not the clinician falling behind the pathologist in this matter of laboratories? Is he not depending too much upon the report of the pathologist, examining at a distance an isolated bit of tissue? Does the geologist, content with the small bit of stone, chipped from the rock, separate himself from exposed strata? Are the flora and fauna to be studied in artificial surroundings only? Are not the ward and the sick-room the laboratory of the clinical pathologist?

The purpose of this paper, however, will have been lost if the impression is given that here is a new specialty. On the contrary, this is an essential part of the clinician's work, and the purpose is to bring to the bedside the laboratory, which has threatened to become, like the pathologic laboratory, separated from the bedside. It was the undisputed right of the pathologist to shut himself away in his laboratory, but it is equally the undisputed obligation of the clinician to carry on his work at the bedside. The points, therefore, which, may I hope, have been brought forward in this paper, are: 1. That the time has come for a ward clinical laboratory; that such should be established and maintained; that the requirements in space and expense of establishment and maintenance are of such modest proportions as to be within the reach of the smallest hospital. 2. That these workshops, being in the neighborhood of the patients, must be kept scrupulously clean. 3. That two internes, a bacteriologist and a microscopist who is also a chemist,

Massachusetts General Hospital, Boston.
Clinical Apparatus and Record Boxes in the center and right.

Massachusetts General Hospital, Boston.
Out-patient Laboratory. Examination and Record-taking in progress.

should, upon proper examination, be appointed in larger hospitals to have charge of these laboratories. The duty of these internes should be to make examinations pertaining to the work for which they are trained; to keep careful records of these findings during the stay of the patient in the ward, and if the patient come to autopsy to take brief records of the findings. 4. That the obtaining of the autopsy and the bringing of the history of the case to the autopsy be a part of the duty of these internes. 5. That a similar laboratory, with a specially appointed physician, be established in the outpatient department.

I wish to repeat that all these suggestions are from the standpoint of the clinician and teacher, and the discussion by and the approval of those versed in hospital management is necessary.

BLOOD EXAMINATION.

ITS VALUE TO THE GENERAL PRACTITIONER.*

M. H. FUSSELL, M.D.

PHILADELPHIA.

I believe that the vast majority of the practitioners of medicine never make an examination of the blood of their patients unless such an examination is suggested and carried out by a consultant. The reasons for this may be many, but the following I believe to be the most important: 1. Blood examinations as practical diagnostic measures are of comparatively recent origin; consequently, men who graduated fifteen or more years ago were not taught the value of such examinations, or how to make them. Unless such members of our profession have had the subject forced upon them by teaching, or by continued intercourse with men trained in such work, they are quite unlikely to take it upon themselves. 2. Blood examinations, like all other valuable diagnostic measures, take time. The general practitioner is hurried; in the town competition is great; and those who depend upon the practice of medicine for a livelihood are apt to become careless about the use of these finer diagnostic measures, and depend upon less certain means of diagnosis. To once slur these valuable agents is to learn to gradually discard them, to the great detriment of ourselves and our patients. It is certain that in many cases examination of the blood is quite as important as, indeed more important than, examination of the urine. It is now an accepted fact that no case is thoroughly studied without a urine examination. I believe it will soon be accepted by the general practitioner —as it is now recognized by the specialist—that a blood examination is equally as important for a thorough study of our cases.

That such examinations are possible and practical for one who practices medicine for a livelihood and not as a pastime, I am personally certain, for I am a practitioner and by no means a hematologist; I have been slow in learning, but now make almost daily use of this most valuable help. Without the aid of an assistant, I have made examinations of blood in a practical way just as I have the urine, and I feel that it *helps me as much* in my daily work. I have as yet been unable to examine the blood of every patient, but I trust that the time is not far off when I can do that in my work. I do, however, use blood examinations in every obscure case, with the greatest possible benefit. I was led to the general use of examination of the blood by the recognition of my own mistakes and by the mistakes of others where no such examinations were made.

One of the most common errors is that of considering all pale individuals as anemic. Many mill-workers, or workmen who have but little daylight work in the open air are extremely white, but far from anemic. The cheeks may be ever so pale, the hands white, but the lips and conjunctivæ fail to show lack of coloring matter in the blood. Without an accurate blood examination such individuals are frequently given iron for long periods of time, a proceeding which is certainly useless and often harmful.

One of the most striking cases of this sort presented itself at my dispensary at the University of Pennsylvania last winter—a man, aged 32, a carpenter, presented himself with symptoms of general weakness with some digestive disturbances, but without loss of flesh. His skin was extremely pale, but repeated examinations showed his hemoglobin to be 90 per cent., with a normal number of red corpuscles. Certainly any one, without most careful observation or without a blood-count, would have considered this man anemic and have uselessly given iron. The examination of his blood excluded any form of anemia.

The opposite condition of affairs is just as frequently present. A person may have at the time of examination a flushed face and give every indication, as far as the skin is concerned, of a normal blood-count, yet examination will show a decided reduction of the hemoglobin. An example of this condition presented itself in my office while this paper was in process of preparation. A girl of 17 was brought by Dr. Evans, of Philadelphia. She had been told a number of years ago, that she was likely to die of aneurysm of the arch of the aorta. She was extremely nervous, and presented all the symptoms of a neurasthenic. Physical examination at once disposed of the question of aneurysm. Her face was florid, unusually red for one who was ill; her lips, however, suggested that she might be lacking in some of her blood elements. Examination for hemoglobin showed only 65 per cent., notwithstanding her florid appearance.

Perhaps no class of patients are treated with less foresight or with less accuracy than are chlorotic girls. They present themselves to their physicians with symptoms such as these: dyspnea, palpitation of the heart, perhaps edema, or hemorrhage from some mucous membrane. Probably a slight cough accompanies the disorder, together with loss of appetite and rapidly increasing pallor. Time and again such individuals have presented themselves at our clinic with a diagnosis of tuberculosis or of heart disease. An accompanying bronchitis, or the rapidly beating heart with hemic murmurs have lent color to this diagnosis. An examination of the blood with the proper instruments, which is done very quickly, shows the hemoglobin to be from 20 to 50 per cent., with but little reduction in the number of red corpuscles. The physical signs then become explicable, and what was a hopeless case becomes one amenable to treatment. Such a mistake in diagnosis occurred in my own practice. In my first year I was called to see a girl of 16 years; she was pale, and had a general edema; her heart's action was tumultuous, and a loud systolic murmur was heard over the entire organ. I made a diagnosis of organic heart disease, but fortunately put the patient upon Blaud's pill. She rapidly improved, and is to-day a buxom woman of 30, perfectly well. A blood examination in this instance would certainly have shown me the error of my diagnosis; and would have saved the family much unnecessary worry; but I would not have had their unmerited praise, for so great is the faith of the family, because this patient was apparently cured of a fatal malady, that to this day they believe I permanently cured the patient of heart disease. Unfortunately for patients generally, no such happy ending occurs until a proper diagnosis is made, which can be reached by a blood examination alone.

In cases of chlorosis perhaps the most important use of blood examination is to determine when the patient is recovered. I have frequently seen cases of chlorosis which had all of the typical symptoms return after one or two weeks of proper treatment and declare themselves entirely well. True, all symptoms were much less, but a blood examination showed but little change in the hemoglobin or in the number of corpuscles. Doubtless many of the cases which have dragged on almost indefinitely in the hands of other physicians have done

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so because of the failure to be accurate, by carefully examining the degree of hemoglobin and the number of blood-cells in all cases before they are discharged. No case of chlorosis should be discharged until the hemoglobin reaches a degree of 80 or 85 per cent., and the corpuscles 4,000,000 to 5,000,000.

For years malaria has been made the scapegoat for all conditions of the character of which we may be uncertain. Every patient with an intermittent fever associated with malaise of uncertain origin—especially if such a patient resided in a malarial district—was said to be suffering from malaria. Malaria is to-day one of the few diseases that can be positively diagnosed. I believe that no case should be diagnosed as malaria unless the plasmodium malariæ has been found in the blood. Examinations for this organism need a microscope and the knowledge how to use it. Unfortunately the blood is not frequently submitted to this test. If this were done, beginning cases of tuberculosis and intermittent fevers in pneumonia would be much less frequently called malaria.

During the last winter the following case came under my care: A lad of 8 was suddenly seized at midnight with a chill, followed with temperature rising to 104. By noon the next day the temperature was normal. The next day at 1 p. m. there was a chill, followed again by a rise of temperature to 104, which declined to normal by midnight. This was repeated the third day. A careful examination of the blood showed the absence of the malarial organism and the presence of a moderate leucocytosis. By the fourth day an undoubted consolidation of the lung occurred and the case followed the ordinary course of pneumonia in childhood. Examination of the blood in this case absolutely excluded malaria and directed attention to the lungs, which gave no sign whatever until the fourth day.

In cases of anemia of obscure cause, frequently a simple examination of the blood with a microscope will make at least a suggestive diagnosis. Egregious errors in diagnosis of cases of leukemia and pernicious anemia may be made by a very simple view of the blood under the microscope, as exemplified in the following cases; I was requested to see a case which had been treated for two years, first for tuberculosis, and later for malaria, in the first instance, because of increasing pallor and loss of strength, in the latter, because of an enormously enlarged spleen. A simple microscopic slide of blood showed a large increase of the white cells; a later count showed 170,000 per c.c. It is true that neither of the diagnoses made in this case was justifiable, but they would never have been entertained had the gentlemen—both excellent and wise practitioners of medicine—cultivated the habit of examination of the blood in obscure cases.

Another case came to me at the University of Pennsylvania with a diagnosis of cancer of the stomach, made on account of rapid failure of strength with severe gastric symptoms, together with increasing pallor. Physical examination showed no signs which would warrant a diagnosis of malignant disease; and blood examination showed a decrease of the hemoglobin to 20 per cent., with a marked diminution of the red-cells to 900,000. A slide showed marked poikilocytosis, and later a stained specimen showed the marked histological characteristics of pernicious anemia. Here, too, a blood examination, not necessarily extensive, would have saved the patient the absolute hopelessness occasioned by a diagnosis of malignant disease, and the doctor an avoidable error. Widal's serum reaction is to-day practiced by nearly all; a combination of this test with that of examination of the blood for the malarial organism will serve to positively determine between typhoid and malaria, a combination of the two diseases, or neither.

It is known that a count of the leucocytes will frequently decide between a specific fever such as typhoid and some inflammatory condition. The following case is an example of this fact: Miss P. was seen in consultation, with the following symptoms: Four years ago the patient suffered with typhoid fever, and at that time the attending physician noticed disease of the mitral valve. Four weeks before I saw her, she was seized with an intermittent fever, with occasional severe chills followed by an exacerbation of the fever and exhausting sweats. Physical examination showed an enormously dilated heart as the result of a double mitral disease, with no other physical signs. The fever was intermittent in type with marked daily remissions, though a true intermittency did not exist. The fever was not typical of mallaria, which was the diagnosis that had been made. Examination of the blood by the board of health showed Widal's serum test to be positive. On account of the previous undoubted attack of typhoid fever, however, this was of little value. Examination for the plasmodium, repeated, showed its absence, and proved the case not malarial. The blood-count showed 40 per cent. hemoglobin; 3,000,000 red cells and 20,000 white cells, a most important factor in connection with valvular disease of the heart, in determining the diagnosis of an ulcerative endocarditis. The diagnosis was confirmed by the subsequent behavior of the case.

It is a well-known fact that in certain cases where the physical signs in the lungs are delayed, an increasing leucocytosis will help to determine the case as one of pneumonia, much to the benefit of the patient and the comfort of the physician.

It will be seen that I have not referred to the staining of the blood and the invaluable and often absolutely necessary steps toward the full study of the case. I have avoided this because such steps need a special training and familiarity with methods not always practicable in everyday practice. But if the preliminary and frequently entirely satisfactory steps be taken, then almost invariably some one can be found who will complete the examinations. The apparatus to be used in this means of diagnosis which I advocate are a microscope, slides, coverslips, hemoglobinometer and hemocytometer.

By the use of a microscope and a slide of fresh blood, one may observe, 1, whether the leucocytes are largely increased in number; 2, whether the red cells form properly in rouleaux, and whether they are of odd shapes; 3, the presence or absence of malarial organism. The first two observations may be made with an ordinary 1/6 objective. The last requires a higher power, preferably an oil-immersion. I have constantly at hand a case containing the latter two instruments, together with diluents and a most necessary rubber bulb. It takes but a few minutes—fifteen—at a patient's home to get the blood properly. The counting and examination can be done at leisure at home. Then, too, there is no undue display of instruments in the presence of the patients. The fresh blood may be preserved for several hours by using oil of cedar run under the edge of the slide. The diluted blood in the tubes can be easily preserved by putting an ordinary gum band lengthwise about them.

In conclusion, let me insist that this most valuable diagnostic measure is practicable for the ordinary, everyday physician. It will enable him to avoid many errors

in diagnosis. It will help him to take a deeper, more scientific interest in his cases.

DISCUSSION ON PAPERS OF DRS. CAMAC AND FUSSELL.

DR. WILLIAM OSLER, Baltimore—I have been for many years impressed with the value of the clinical laboratory and the small laboratory in the wards; we can not any longer do without either; they are really associated; they are as essential to the proper equipment of the hospital as the internes. They are to the physician just as the knife and scalpel are to the surgeon. I was glad that Dr. Camac referred particularly to the need of the clinical laboratory in the outdoor department of the dispensaries, for, after all, it is in the dispensaries that cases are most frequently not only diagnosed, but where they come for diagnosis. A very much larger number of patients would receive good treatment if they received proper diagnosis; and so I think the dispensary should have the aid of a small clinical laboratory. An interesting point is that the equipment need not be elaborate. A small equipment will suffice. An important and essential equipment is in the brain of the dispensary physician and his assistants.

I am particularly glad to hear Dr. Fussell and to see his bag. I would rather see his bag than see Dr. Fussell. The doctor can be seen at any time but not his bag. That is the sort of practitioner into whose hands I should like to fall if I had a case of ulcerative endocarditis; that is the sort of a man who not only has a microscope but knows how to use it. The average practitioner needs a microscope, needs it with him in his bag.

Therapeutics.

Lasting Anesthesia.

Lasting anesthesia can be produced by spraying ethyl chlorid over a surface previously moistened with a concentrated watery solution of cocain. Cocainized ethyl chlorid has been employed for opening abscesses, etc.—*Bardet: Med. Rec.*

Pruritus Senilis and Its Treatment.

Parisot, in the *Revue méd. de L'Est*, associates pruritus senilis with an autointoxication which has its origin in the intestinal tract and is accompanied by the incompetency of the kidneys present in old age. The blood is thus saturated with poisons, which produce a direct irritation of the nerve-terminals. In old age the liver, in an autotoxic sense, does insufficient work, the activity of the kidneys is diminished and, on account of retardation of digestion, the intestines always contain large quantities of fecal matter. The conclusion is that senile pruritus is a toxin-urodemia. The senile changes in the skin produce only a local pruritus, never a general condition. The treatment which the author recommends consists of benzoic acid, naphthol in daily doses of thirty grains, careful regulation of the bowels and a milk cure.—*Albany Medical Annals.*

Reflex Coughs of Children.

The editor of *Pediatrics*, referring to the two principal varieties, quotes MacCoy to the effect that hacking night-coughs of children are mostly due to nasopharyngeal obstruction, with mechanical irritation by retained secretions. The other class, a paroxysmal hacking cough, described by Dr. Francis Warner, of London, occurs in emaciated children with poor appetites, but who have a normal temperature and apparently healthy lungs, and is attributed by him not to peripheral irritations, as of intestinal worms, but to unbalanced central nerve-action. This opinion, somewhat at variance with that generally held by the profession at large, is based on the examination of 22,000 school children.

Acute Intestinal Catarrh.

Professor Ewald prescribes in obstinate acute intestinal catarrh:

℞. Resorcini ..... gr. lxxv
Bismuthi salicylatis.
Tanningen, āā..... 3ss
Sodium carbonate..... ʒii
M. ft. pul. Sig. Small teaspoonful every two hours.—*Georgia Med. and Surg. Jour.*

Urticaria.

Mr. Skinner, pharmacist to the Great Northern Hospital, recommends the following formula for allaying the itching, burning sensation of urticaria:

℞. Liquoris hammamelidis..... ʒii
Salis maris ..... ʒss
Aq. dest..... Oi
M. Sig. To be applied freely.

He also speaks highly of the following cold cream:

℞. Adipis benzoinat ..... ʒiv
Ceræ albæ ..... ʒss
Cetacei ..... ʒi
Boracis ..... ʒss
Glycerini ..... ʒi
Aq. coloniensis..... ʒiiss
M.
—*Therapeutic Gazette.*

Migraine Accompanying Anemia.

℞. Ext. cannabis indicæ..... gr. 1/6
Ac. arseniosi..... gr. 1 1/60
Ferri pulv..... gr. i
M. Ft. pil. No. 1. Sig. One pill three times a day.
Or:
℞. Ext. cannabis indicæ..... gr. 1/6
Pulv. digitalis..... gr. ss
Ferri lactatis..... gr. ii
M. ft. pil. No. i. Sig. One pill three times a day after meals.
—*Med. Standard.*

Inhalation of Balsam in Catarrh of Upper Air-Passages.

In laryngitis and catarrhal bronchitis, a few drops of the following mixture is to be placed in a caraffe-shaped bottle and heated gently over the flame of a spirit lamp. When the bulb becomes filled with the vapors they are drawn by the patient through the nose by means of a tube with a flaring end.

℞. Eucalyptol 25
Menthol 4
Terpinol 2
Essence of pine..... 07
M. For local use.—*Kafemann: Med. Rec.*

Instant Relief of After-Pains.

According to Winterburn (*Jour. of Obstetrics*), in many cases a nice warm meal is better than any medicine; "still, where the pains are exhaustingly severe, I turn to amyl nitrite. This potent drug is a very efficient controller of after-pains, and used cautiously, I see no reason to apprehend harm from it. A neat way of using it is to saturate a small piece of tissue paper with five or six drops, stuff this into a 2-dram vial and request the patient to draw the cork and inhale the odor when she feel the pains coming on. It acts with magical celerity."—*Med. Prog.*

Painful Dysmenorrhea

The *Progrès Médical*, citing *Presse Médicale*, attributes the following to Dalché:

℞. Ergotin ..... gr. 1½
Sulphate of quinin..... gr. 30/100
Powdered digitalis leaves..... 15/100
Powdered coca, q. s.
M. For one pill. Sig. Three to five may be taken daily.—*N. Y. Med. Jour.*

Acute Coryza.

M. Sanger urges (*Therap. Monatschrift.*) the importance of adopting the right mode of administering topical agents in this complaint, e. g., medicated snuffs, vapors, etc. They should not be introduced into the nose by forced inspiration. Such forced inspiration increases the existing hyperemia of the nasal mucous membrane, and the swelling, hypersecretion and tendency to sneezing. The best remedial agents are: turpentin, 2 to 5 per cent., alcoholic solution of menthol-camphor, with tannin, cocain and menthol. A mixture of equal parts of peroxid of hydrogen and water is recommended for use in spray. These remedial substances should be introduced into the nose by mechanical means—sprays, insufflators, etc. Hot aqueous vapor is also useful, and the writer has had excellent results with compressed air, introduced by means of a Politzer ball. In using the last, in order to protect the middle ear, the other nostril and the mouth must be kept open. Relief is also to be obtained by preventing nasal respirations by plugging the nose

with cotton-wool. Diaphoresis is a rational means of combating the disease, and will often cut short the commencing attack. The writer considers the nasal douche as irrational. For the causal treatment he recommends quinin, salicylic acid, antipyrin and above all tolipyrin.—*Med. and Surg. Review of Reviews.*

Abortive Treatment of Erysipelas.

Dr. Labit (*Amer. Jour. of the Med. Sciences*) recommends the use of a 10 per cent. solution of iodol in collodion. The affected area is thoroughly painted, and the coat extended for an inch over the healthy skin. If upon the scalp, it is first shaved, then painted. That the iodin contained in the iodol is absorbed is shown by its appearance in the urine. Frequently within twenty-four hours all symptoms of the disease will disappear. It is not claimed that iodol is the only specific for the streptococcus of Fehleisen; doubtless other antiseptics can produce the same result. The pressure produced by the collodion, and its penetration, carrying with it the remedy into the tissues, are important. The method is not painful, but on the contrary, is anodyne.—*Mass. Med. Jour.*

Caffein Treatment of Heart Disease.

In the *Nord Médical*, M. G. Lemoine states that for fifteen years he has given caffein every day to patients suffering from myocarditis, and he feels certain that this treatment has prolonged their lives by avoiding the various discomforts, attacks of oppression, and temporary asystole to which they had formerly been subject.

M. Lemoine gives an account of a case in which, owing to the permanent and prolonged use of caffein, the patient enjoyed better health than she had for many years. The author refers to five similar cases, in the most recent of which this treatment has been employed for three years. One case was that of an emphysematous subject with cardiac degeneration, in whom this treatment had been instituted seven years ago, and, owing to the influence of the caffein, he had been enabled to resume his work.

M. Lemoine states that it is not necessary to employ large doses of caffein in order to obtain these results; on the contrary, he recommends weak doses, and as much as possible doses that vary more or less from day to day. This method has the great advantage of not accustoming the organism to the same dose always; consequently it is possible to continue the use of the drug without increasing the doses.

This method he considers the most logical, although, he says, it may be objected to, on the ground of accustoming the organism to a drug and of the physician's being obliged to gradually increase the doses until they become excessive. The author thinks, however, that he has answered this objection in presenting the facts themselves of the case referred to. He concludes that the caffein treatment is indicated in patients who suffer from cardiac weakness due to a disturbance of the pulmonary circulation. He states that he has employed this treatment with admirable results in emphysematous subjects with weak heart disease.—*N. Y. Med. Jour.*

Digitalis in Heart Trouble.

Dr. J. Groedel, in the *Practitioner* for April, says that cardiac insufficiency is an inevitable result of advancing heart changes. Compensation is established in most cases of valvular disease and may last for months or years, but if the patient lives there is sure to come a time in which heart failure is more or less pronounced. In those cases he recommends the combined administration of digitalis, and advises that we should not wait until signs of want of compensation develop, such as dropsy, anemia and tachycardia. He recommends that the digitalis be given in doses of from 8 to 10 grains, once each week.

At such wide intervals the drug has no cumulative effects, but during its administration the quantity of urine should be carefully determined, and if it is not augmented the drug should be withdrawn. In the great majority of cases the digitalis is well borne by the patient, and the charge which is made that the drug causes a loss of strength and increases the weakness of the patient is unfounded, these changes occurring as a result of the disease for which the drug is given, and not of the drug itself.

He is convinced that where fatty degeneration is markedly benefited by digitalis there is sometimes a subjective cure of these cases.—*Medical Summary.*

Chloral in Eclampsia.

Dr. E. Blanc considers the chloral treatment of eclampsia the most reliable, and has satisfied himself that it exercises a favorable action upon the inflamed and obstructed parenchyma of the kidneys. The only safe method of use is by the stomach or rectum. If the women is in a comatose condition it is, of course, impossible for her to swallow, and accordingly the rectal method is generally preferred, the chloral being emulsified by means of milk and the yolk of eggs.

Inasmuch as the enemata are usually expelled, Dr. Blanc prefers the method of Prof. Fochier, whereby an esophageal tube is introduced into the stomach and the chloral injected. If it is impossible to open the mouth, the tube may be passed through the rectal fossæ. The chloral solution should be made in the strength of 1/30 to 1/40. The dose should not exceed 45 to 60 grains. In this manner two to four drams of chloral may be administered in twenty-four hours. As the remedy appears to have a pathogenic action, it is well to give 45 to 60 grains a day in severe albuminuria of pregnancy. Its administration should be combined after the disappearance of the crisis for the purpose of eliminating toxic matters from the blood.—*Jour. de Méd. de Paris.*

Cacodylic Acid in Pulmonary Tuberculosis.

The Paris correspondent of the *Practitioner* (May, 1900, 552) describes cacodylic acid as a tasteless, almost odorless, organic compound of arsenic, containing a large percentage of this substance in soluble form, and being at the same time nontoxic and easily tolerated by the organism. It is a feeble acid, and not at all caustic. It has been employed successfully in the treatment of profound anemia, malaria, and tuberculosis. In cases of tuberculosis the drug is better given hypodermically, rather than by the mouth, in the form of sodium or potassium cacodylate, in doses not exceeding .10 gm. of cacodylic acid daily, the average being from .02 to .05 gm. The injection should be continued for seven or eight days, followed by a free interval of eight or ten days, after which the treatment should be resumed. Loss of appetite or elevation of temperature is an indication to cease the treatment, as also are signs of saturation, which is manifested by congestive flushings of the face or restlessness. Hyperalimentation should be practiced at the same time. The diet should preferably be rich in phosphorus and calcium, and may include fish, brain, milk, the yolk of egg, vegetables and bread. Phosphates with sirup or with glycerin should be interdicted. For the control of cough, hyoscyamus is preferable to opium. Exposure to dust should be avoided. A solution for hypodermic injection may be prepared as follows:

℞. Acidi cacodylici ..... 5|
Sodii carbonat. q. s. ad saturationem.
M.

℞. Cocain hydrochlorat..... |08
Creosoti (dissolved in 8 gm. alcohol).... |33
Aquæ destillatæ q.s. ad.....100|
M. Add cacodylic acid solution.
Sig. .015 c.c. to .03 c.c. hypodermically.

One c.c. contains .05 gm. of cacodylic acid. The solution keeps well. The injections are painless, and unattended with danger, although, on the other hand, when administered by the gastro-intestinal tract, the solution is decomposed into a poisonous product, causing epigastric pain, loss of appetite, a sense of fatigue, and sometimes diarrhea with loss of weight; also diminution in the secretion of urine, which becomes albuminous. The drug is well borne by hypodermic injection, and neither tolerance nor habituation is established. Small doses of potassium iodid, from .1 to .15 gm. in the twenty-four hours, may be given at the same time.

Treatment of Tabes Dorsalis.

When tabes dorsalis develops subacutely, or when subacute exacerbations occur, Benedikt (*Wiener Med. Woch.*, 1900, No. 21, p. 1017) considers antiphlogistic treatment indicated, viz., absolute rest, applications of cold to the vertebral column, possibly the use of wet cups, and the internal administration

of extract of ergot. At a later stage, when sclerosis of the posterior columns is advanced, afflux of blood to the parts must be favored, and this is best accomplished by means of an active Scottish douche. Electricity is an important therapeutic measure, especially central galvanization. Faradism is of subordinate value for the relief of secondary symptoms of anesthesia, and as a local sedative for the relief of local tabetic pains. Cold-water treatment has a similar value. Warm-water bathing may be injurious; it is without effect upon the morbid process. If it alleviates pain, it increases the difficulty in movement. Bloodless extension is useful, but the most important therapeutic measure consists in exposure and stretching of the sciatic nerve; motility is thereby improved, and pain is relieved. Massage of the nerves is of subordinate importance, while therapeutic exercises are capable of a limited amount of good. Mercurials and iodids are often administered without justification. Even when a history of syphilis can be obtained these remedies should be used with care. In such an event subcutaneous injections of mercurial chlorid may be given first. Should these not yield good results, better effects can not be expected from more active treatment. Should improvement occur, mercurial inunctions may be begun, the dose being cautiously increased from thirty to sixty grains. Should improvement become stationary, or should aggravation ensue, the treatment should be suspended. Daily doses of fifteen grains of iodid will generally be sufficient, and the effect should be carefully watched. Other remedies, such as silver nitrate and extract of physostigma, are of little importance. Sodium iodid, the salicylates, phenacetin, etc., may be employed as analgesics, but morphin is still the most potent remedy for this purpose. Cauterization also is useful, especially for the relief of gastric crises.

Treatment of Alcoholism.

At a recent meeting of the French Academy of Medicine, Crivelli (*The Lancet*, May 19, 1900. p. 1473) reported that in a large number of cases of alcoholism he had observed marked improvement and occasionally permanent cure as a result of the following method of treatment: Injections of artificial serum are made and followed by complete rest, baths, massage, light diet, and coffee. Then a solution of strychnin, 1 per cent., is administered hypodermically twice a day, commencing with three drops and increasing the dose by two drops daily until toxic symptoms appear. This generally happens when the dose has been raised to between twenty and forty drops, corresponding to .003 or .005 gm. of strychnin. The dose is then gradually reduced until it reaches two drops.

Mercurial Treatment of Lupus and Leprosy.

Ehlers, editor of the new international journal, *Lepra*, in a communication, urges the general adoption of Fournier's intermittent inunction method of mercurial treatment in leprosy, from which he anticipates brilliant results, as he has found it of great benefit in lupus. The results of mercurial treatment of leprosy in Iceland, Jamaica and in Haslund's experience have been extremely favorable. Ehlers' mercurial treatment of lupus was either injections of calomel or Robin's pills with the following formula:

℞. Sublimat. corros.
Natr. chlor.
Vin. thebaic., āā..... 1
Mic. panis..... 5
Gluten ..... 2 } 5
Glycerin. 2-3

M. Ft. pilul. c. S. one to three pills a day, during meals.

How to Make a Mustard Plaster.

Never place a cold mustard plaster on a patient. The shock is like a sudden plunge into cold water. Before you commence to mix the paste be sure you have the necessary material at hand. First put a large plate where it can get warm, not hot. Then stir the mustard and flour thoroughly together before you add the water, which should be tepid; stir in enough water to make a paste about the consistency of French mustard. Place your cloth—an old handkerchief is best—on the warm plate, spreading the paste in the middle of it, leaving a margin wide enough to lap well over on all sides. Do not remove paste from the plate until ready to apply. Place a folded cloth between paste and patient's clothing.—*Ex.*

Medicolegal.

Where Non-Experts Can Not Testify on Insanity.—The Supreme Court of North Carolina makes the statement, in the case of Whitaker vs. Hamilton, that the rule, or rather exception, which was first adopted in the English courts, permitting any one whose acquaintance and means of observation of the party whose sanity is in dispute are sufficient to express his opinion as to his mental condition, has been received in all the states of the Union, except Massachusetts, Maine, New Hampshire and Texas.

Sufficient to Connect Death with Injury.—A man, in apparent good health and vigor, it is assumed by the appellate division, second department of the Supreme Court of New York, in Thurber vs. Commercial Travelers' Mutual Accident Association, receives an injury sufficient to cause death by deficient circulation, through weakening the action of the heart. Under treatment for a month he exhibits to skilled physicians the unmistakable conditions which tend to indicate the presence of this apprehended danger. Yet he starts unhealed upon a considerable journey. A few days later, he dies, without any other known cause or illness, and upon postmortem examination no cause of death is revealed excepting such as is necessarily and directly traceable to the injury itself, the evidence of which cause is distinctly visible. Surely these facts, when fortified by the opinions of medical experts, are amply sufficient, the court holds, to connect the death with the physical injury, and to supply a certainty of proof not always obtainable in cases of this character. **The proof, unrefuted,** it adds, establishes the injury received at the time of the accident as the sole and proximate cause of death.

On Artificial Limbs.—A man, 59 years of age, who was a carpenter by trade, but who had most of the time been engaged in mining, met with an accident, which necessitated the amputation of his left leg about three and one-half inches above the ankle-joint. A physician, who said that he knew the kind of work that was required of a carpenter and of a miner, was asked whether a man could perform the work of a miner with an artificial limb, such as this man had obtained, with as much safety and readiness as if he had his natural limbs. This was objected to. But the United States Circuit Court of Appeals declares, Southern Pacific Company vs. Hall, that it is unwilling to say that it was error to allow the physician to give his opinion as to what the effect of the fracture and amputation would be in regard to the man's capacity to perform manual labor. The conditions resulting from the use of an artificial limb, it thinks, may be said, to a certain extent, at least, to be more clearly within the knowledge of, and may be presumed to be better understood by, a physician, than it is by the common knowledge of men engaged in the ordinary affairs of life. The purchase of the artificial limb in question, the court further holds, was an expense incurred by reason of the result of the injury, for which, if properly alleged in his complaint, he being entitled to recover damages, would have been entitled to recover. But the limb, it holds, did not fall within the category of any expense which could be allowed under an averment as to general damages.

Value of Opinion Evidence.—Evidence which is made up of mere theory and speculation, and which suggests mere probabilities, an Iowa judge said, in the case of Brush vs. Smith, ought never to be allowed to overcome clear and well-established facts, and, he declared that, further, the law recognizes expert testimony as the lowest order of evidence. This statement was made at the conclusion of giving the jury the usual instruction with reference to the value of expert evidence in general. The Supreme Court of Iowa holds that it was error. No doubt, it says, evidence which consists merely of the opinions of witnesses should be received with caution, for it is well known that a witness testifying to an opinion is more likely to be mistaken than a witness who testifies to a fact.

But, while it is to be received with caution, it is not always true that it is of little value, or the lowest order of evidence. In some cases it may be of great value, and of the highest character. To partially illustrate: Here, two veterinarians had given evidence respecting the disease known as "hog cholera," and had testified that certain hogs were infected with it at the time they were sold to the plaintiff. Now the disease among animals denominated "cholera" is so well known and established, has been the subject of so much investigation by experts, and its symptoms and effects have become so well recognized by professional veterinarians, the court holds, that the evidence given in this case, based on proven facts, should not have been disparaged as it was by the language above condemned.

Consulting Physician for Priapism.—An applicant for life insurance being asked how long since he consulted a physician, the word "consulted," the United States Circuit Court of Appeals holds, does not relate to the opinion of a physician concerning a slight or temporary indisposition, speedily forgotten. Furthermore, the applicant having denied ever having had any disease or ailment, the court holds that, the physicians testifying on this point having each pronounced the applicant to have had a specific malady which the other did not discover, it was clearly a question for the jury whether each was not mistaken, and that no malady existed. On the other hand, the court holds, Hubbard vs. Mutual Reserve Fund Life Association, that where there is a question practically asking what "disease or ailment" any physician consulted discovered, the words "or ailment" broaden out the expression, and cover mere symptoms, so long as they are in themselves troublesome, as priapism is troublesome. In consequence, it does not consider that the fact that the physician describes priapism as only a symptom aids the case any more than it would for one to maintain that, though he had consulted a physician for a persistent and troublesome cough, lasting for years, it was not a disease, but only a symptom. To this it adds that, in the supposed case of such a cough, there would be an unquestioned concurrence that it was an "ailment," within the meaning of questions of this nature, and the same concurrence would exist with reference to priapism, if it were so well known as coughs.

No Excuse for Not Having License.—The defense to the Mississippi case of Bohn vs. Lowry, an action brought to recover for professional services, was that the plaintiff had not been examined and had not obtained the required license to practice in that state. At the trial, he testified that by profession he was a physician; that he had practiced medicine seven years; that he was a graduate of Tulane University, and of the Charity Hospital of New Orleans, La.; that he had applied for and received a temporary license from the Mississippi State Board of Health, and that he did not go before the board of examiners at the meeting held just prior to the expiration of such license because he was sick. But, even under such circumstances, the Supreme Court of Mississippi holds that he could not maintain an action for professional services without the license required by law. That he was a graduate of Tulane University, and a skilled physician, it says, was not to the purpose. That he was disabled by sickness from obtaining a permanent license, which, doubtless he would have done, if he had been before the board, was his misfortune. Looking back, it seems that it would have been a reasonable and wise provision of law that it should have authorized the board of health to extend a temporary license for inability to attend a meeting of the board on account of sickness or other adequate cause. But, after saying so much, the court adds, it is for the legislature to insert such provision, and not for the court to ingraft it.

Board of Health May Employ Inspectors.—The mere complaint of a nuisance, the appellate division, second department of the Supreme Court of New York says, in Kent vs. Village of North Tarrytown, will not have the effect of determining that a nuisance exists. Neither will a declaration of a board of health establish a given condition to be a nuisance, when in fact it is not so. Hence, when a board of health is required to execute the health laws, suppress nuisances, and to make rules and regulations therewith, the court holds that, in the execution of law, it is quite within its powers to make employment of persons when necessary to inspect, report and describe a given situation, in order that it may intelligently act thereon. Nor does it consider that because there may be statutory language giving it power to employ persons to carry into effect its rules and regulations, the power of employment is thereby necessarily limited to the right to employ after the nuisance has been declared. It holds that such language is broad enough in its scope, when taken in connection with the purposes and objects of the law, to authorize the employment of necessary persons in connection with the whole subject-matter, as well as for the duties which they are obligated to perform. However, where the board is authorized by statute to fix the compensation of an employee, the court does not think that has reference to the audit of a bill of an aggregate amount for services extending over a considerable period of time, but rather refers to a contemplated hiring for a specific period, and relates to the fixing of a per diem or other compensation, measured by the length of service and its character.

Locating City Pest-House in Rural Community.—Section 2568 of the Iowa Code provides that the mayor and council of each town or city, or the trustees of any township, shall constitute a local board of health within the limits of such town, cities or townships of which they are officers. The board, it then says, shall have power to make such regulations as are necessary for the protection of the public health respecting causes of sickness and quarantine, and to proclaim and establish quarantine against all infectious or contagious diseases dangerous to the public, and maintain and remove the same. This statute, the Supreme Court of Iowa says, in Warner vs. Stebbins, specially defines the territorial limits within which a local board of health may act. With the limits defined, it is by law made the guardian of public health, and it is its duty to stand as a wall between the inhabitants of the territory over which it has jurisdiction and dangerous contagious diseases. Beyond its prescribed boundaries it has no power or authority. The power given to local boards by this statute is broad. It is in the nature of legislative power delegated to the officers of a municipality for the preservation and promotion of the public health, and, while its use as an instrument of oppression by the local authorities will not be permitted, acts done thereunder, in good faith and for the purpose of promoting the general health, and for the purpose of preventing the spread of dangerous contagious diseases, will be upheld by the courts. Now this was an action brought by the board of health of one township to restrain a neighboring township board of health from establishing a pest-house on land purchased in the first mentioned township for hospital and other purposes by a city forming part of all said neighboring township. Moreover, section 880 of the Code provides that cities may acquire and hold ground outside of their municipal limits for cemetery and hospital purposes. But the supreme court does not think that this statute was intended to establish pest-houses in thickly-settled rural communities. The health regulations of the state are a part of its police powers, and, if their enforcement abridges private or corporate rights, it holds, such rights must yield to the general public good. So the conclusion of the court on the merits is that the defendants, acting as the board of health of the city township, had no power to establish a smallpox pest-house in the other township against the objection of the board of health of that township, and that an injunction would lie to restrain them from so doing. Section 2570 of the Code, which provides for the care of infected persons by the local authorities, the court does not consider enlarged, in any way, the territorial limits of their jurisdiction, nor authorized the transfer of the disease to the jurisdiction of another board of health. Indeed, it says that the members of the complaining board of health would, as such, have been remiss in their duty had they permitted smallpox patients to be domiciled within their jurisdiction, upon the theory that the disease might not spread. It maintains, too, that if a local board of health may quarantine a person within its territorial limits who is afflicted with a well-developed case of smallpox, the logical conclusion follows that it may restrain those who attempt to take him there, not because his presence there might constitute a nuisance, but upon the higher ground of public welfare and public policy.

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HEALING OF WOUNDS OF THE OVARY.

Various processes in the ovary of a progressive or constructive character have been described from time to time, but there has been no detailed account of the rôle enacted by the different histologic components in regeneration so extensive and thorough as the recent work of Maximow.[1] Lothrop studied the healing of wounds in the ovaries of rabbits and dogs made by excising small portions of the organs by crushing, and by passing ligatures through them; he not only failed to note any changes in the germinal epithelium which covers the ovary but also omitted to describe the multiplication of ova which he claimed took place. Sselsnew did not find any progressive changes in either the ova or the follicles after wounds, and both Phister and Levi have described changes entirely retrogressive in the inflammations produced experimentally in the ovaries of amphibia. Although it has been asserted that a compensatory hypertrophy of one ovary may follow the removal of the other, even this rests upon an insecure basis. Maximow studied wound healing in young and adult rabbits and in a few adult guinea-pigs, using between forty and fifty animals, and at periods of from five to eighty days after the wounds were made. The previous work of the same investigator upon the process of healing of wounds of the testicle[2] enables us to form some estimate of the degree of differentiation and the ability to proliferate of the various cells concerned in spermatogenesis; and it is self-evident that a knowledge of the methods by which wounds in the ovary heal is of greater value, since with the rupture of every mature Graafian follicle a wound is produced. The wounds in this study were made by single incisions, by needle puncture, by passing silk ligatures through the ovary and by excising small wedge-shaped pieces—naturally, all under strict precautions to prevent infection. It was learned that the external germinal epithelium begins to cover defects of the surface during the first twenty-four hours, in a manner analogous to the epidermization of wounds elsewhere The columnar and cuboidal cells at the borders of the wound become flattened and spread out; in this manner alone, surfaces of considerable extent may be covered anew. The cells also possess migratory powers, and on the second or third days after the wound, multiplication by karyokinesis is marked; they may so fuse with one another that a sheet-like or syncytial membrane is produced; they also may penetrate into the crevices of wounds. When extensive blood-clots or masses of necrotic tissue fill the wound, the regeneration of epithelium is hindered; but small masses of fibrin may be coated over with new epithelium. Regeneration of this epithelium ceases on the sixth or seventh day.

In the narration of the modifications which take place in the connective tissue of the ovary, there is a careful review of the facts which have so far come to light pertaining to the so-called "segmental cells," which are larger cells, twenty-four microns in their long diameter, with usually excentric nuclei, and cell bodies, which have a dense reticular structure. They often contain small globules of fat or other substance which blackens with osmic acid. The origin of these cells has been a much-mooted question. Maximow controverts the opinion of Harz, who traced their origin to the Wolffian tubules, with the fact that they are most numerous in adult ovaries. He not only accepts the view recently advanced by Rabl that they are derived from the cells of the *theca interna* of follicles which have undergone a physiologic shrinkage, but conceives it possible that they may emanate from connective-tissue cells of the ovary. In the necrosis of these large cells a substance is produced which exerts a remarkable positive chemotaxis for leucocytes; the leucocytes are found heaped up around and within them, and eventually the disintegrated stroma cells are entirely appropriated by the leucocytes or by other phagocytic cells. Although for the most part retrogressive changes were observed in the stroma cells, they may multiply by indirect mitosis or even form multinuclear "giant cells." No evidence was found of the direct participation of the stroma cells in the formation of the cicatrix.

By the incision of large follicles, the ovum escaping, a process of healing resulted which corresponds closely with the spontaneous development of corpora lutea. Wounds afford a point of entrance for granulation tissue. In small and immature follicles in the neighborhood of the wound, no progressive changes in the ovum were noticed.

As might be expected, in a discussion of the healing of wounds of mature Graafian follicles, and of corpora lutea, reference is made to the theories which prevail respecting the large "luteal cells." Maximow concurs with the views at present held by most investigators, namely that they are derived from the *theca interna*. Evidences of the multiplication of these cells were found only after the most painstaking search; only Rabl and Sabotta have observed mitosis of these cells. On the other hand, they exhibit many signs of degeneration. Wounds of corpora lutea healed promptly; injuries of the mature Graafian follicles were readily repaired by granulation tissue. Usually, however, the ovum escaped; in short, the formation of cicatrices in the ovary can be reasonably expected, providing infection does not occur.

The value of such work as this, and other work of like character, does not lie solely in the new knowledge brought to light; by excellence and careful attention to detail standards are formed which determine how investigations of this nature should be pursued.

1. A. Maximow: Die histologischen Vorgänge bei der Heilung Eierstocks-Verletzungen und die Regenerations-Fähigkeit des Eierstocksgewebes. Virchow's Archiv, 1900, 160, 95.

2. A. Maximow: Die histologischen Vorgänge bei der Heilung von Hodenverletzungen, etc., Ziegler's Beiträge, xxvi.

LEUCOCYTES IN THE BLOOD IN TYPHOID FEVER.

It has become possible by means of modern methods of staining to demonstrate a series of changes in the blood of greater or lesser significance and diagnostic importance. The study of the physical and chemical properties of the blood is attended with such difficulties, and is so time-consuming, and its results, further, are of such a general character, that it can not be expected to be of distinctive value. The study of the morphology of the blood, especially of the colorless corpuscles, is, however, more feasible, and productive of better results, and there is reason to hope that a knowledge of the variations in the leucocytes may prove an important and trustworthy aid in diagnosis.

With the object of shedding light on one aspect of this subject, Naegeli[1] undertook a study of the blood in more than fifty cases of typhoid fever, making as many as from fifteen to twenty-five observations in the individual case. As a result, he concludes that examination of the blood, especially systematically continued enumeration of the varieties of leucocytes, constitutes one of the most valuable methods in the diagnosis and, to a certain extent, in the prognosis of typhoid fever. The variations in number of the neutrophiles, eosinophiles and lymphocytes are regular and pursue a definite specific course at the various stages of the disease. They are due to the action of the typhoid toxin upon the bone-marrow, the formation of neutrophile and eosinophile cells being inhibited; and probably, also to the influence upon the functions of the lymphatic structures, in consequence of which the number of lymphocytes is altered. The anatomic expression of the action of the toxin upon the bone-marrow is a definite pathologic result as exhibited in a marked preponderance of the myeloblasts and as marked a reduction in the neutrophile and eosinophile myelocytes. In the first stage of typhoid fever, when the temperature pursues an ascending curve, there is probably a neutrophile leucocytosis of moderate degree, which soon subsides and yields to a diminution in the neutrophile cells. The eosinophile cells disappear almost, if not wholly; the lymphocytes undergo moderate reduction. The second stage, with continued fever, is attended with further reduction in the neutrophile cells and the lymphocytes, although the latter frequently undergo increase toward the close. In the third stage, with remissions in temperature, the lymphocytes begin to undergo increase and their number may even now be considerable. The number of neutrophile cells becomes still less, and eosinophile cells begin to reappear at the end of this period. In adults the lymphocytes often remain still in small number. The fourth stage, with a declining temperature, is characterized by still further reduction in the neutrophiles, which now reach their minimum. The lymphocytes are generally still further increased, and are often more numerous than the neutrophile cells. The eosinophile cells increase slowly and regularly. In the first days after defervescence, the neutrophile cells begin to increase in number, the lymphocytes are quite numerous, and the eosinophile cells steadily increase in number. Some time after the termination of the disease, considerable lymphocytosis is encountered, with marked eosinophilia, and a normal or slightly increased number of neutrophile cells. This condition is less marked in adults than in children, and generally disappears in the course of a few months, while it persists a longer time in children. Also, during the course of the disease, all fluctuations in the leucocytes are more marked in children, particularly the increase in the lymphocytes. On the other hand, even in severe cases in children the figures do not fall so low as in adults, evidently in consequence of slighter injury to the bone-marrow and the lymphatic structures. Complications not of typhoid origin influence only the neutrophile cells, which, as a rule, increase in conjunction with suppuration, cystitis, parotitis, pleuritis, bronchopneumonia, nephritis, etc., but generally not to so marked an extent. An absence of leucocytosis in spite of complications, indicates the threatening condition of insufficiency of the bone-marrow, with inability to produce neutrophile cells.

In prognosis valuable guides are derived from the failure of the eosinophile cells to disappear, or their early appearance from the slight diminution in the neutrophile cells, and the marked increase of the lymphocytes, in a favorable direction; and from the marked diminution in all varieties and absence of leucocytosis in association with complications, in an unfavorable direction. Relapses are attended in all particulars with the same conditions as the primary disorder. The earlier views as to the fluctuations in the leucocytes in cases of typhoid fever—unequal division, absence of exudation, influence of splenic enlargement, positive and negative chemotaxis, etc.—are to be replaced by the assumption of the action of a toxin upon the bone-marrow and the lymphatic apparatus in the sense of an inhibition of function.

1. Deutsches Archiv für Klinische Medicin, 67. B., 3, u. 4, H., p. 279.

THE NEW YORK STATE MEDICAL ASSOCIATION.

The long struggle for supremacy between the New York State Medical Society and the New York State Medical Association has at last terminated in favor of the latter, which is the accredited representative of the American Medical Association, and it is now hoped that there will soon be a union of the medical profession in that commonwealth. The special charter recently granted by the legislature, followed by the decision of Justice McAdam, of the Supreme Court, that the Association, as the accredited state representative of the American Medical Association, has the right to legally represent the profession of that state, places the State Medical Association at the head of medical organizations as the representative of the medical profession in that locality.

As published in our news columns two weeks ago, the question raised was whether the Association could pros-

ecute and collect fines imposed upon illegal practitioners of medicine, and the attorney of the New York State Medical Association made a test case for the purpose of determining the legal standing of the Association by a decision of the court. It is exceedingly unfortunate that the old state society has been placed in its present position, and the physicians of other sections regret that such a condition exists, but the few who dictated the policy that brought it about should shoulder the blame and be the first to return to lift those who have followed their advice up to the plan of organization promulgated by the State Association. This, if carried out, is bound to make the profession felt as a unit in advancing the interests of the public and in demanding the recognition of the rights of the physician and surgeon.

The time is ripe for a thorough organization of the profession of the whole country, but before this can be perfectly done each state must have an individual, not a two-headed organization. There can not be two state societies in New York affiliated with the American Medical Association any more than in any other state. It is believed that the continued rapid growth of the New York State Medical Association, added to its new plan of organization, will soon result in ending the unhappy and unsatisfactory conditions of the past. The old bitter feeling is practically at an end, and a desire for a coming together is evident on both sides. A united profession in the Empire State will be a power for good, not only to the local profession, but to that of the whole country. It may be necessary for each side to make some sacrifice, to give a little here and take a little there, before a final union will be brought about, but, with few exceptions, all on each side are ready for this.

THE MEDICAL ASPECT OF THE CHINESE TROUBLE.

Now that it seems probable that the United States has before it, as a portion of its "white man's burden," serious and possibly prolonged and extensive military operations in China, it is well to face openly some of the sanitary problems it involves. China is by no means a healthy country; over a large part of its extent it supports a dense population, who live in conditions of hardly calculable unwholesomeness, and by their methods of agriculture, thrifty and thorough, but unsanitary, keep their land in a state of a midden heap. The watercourses are practically open sewers. Human life is comparatively cheap in China, and it is probable that the mortality rates of their cities and country districts from gastrointestinal disorders would be found higher than in most other countries, had we any reliable statistics. This is taking into account, also, the immunity they must have acquired during centuries of such conditions, and their tea-drinking habits, saving them perhaps from many of the perils of contaminated water. Our experience in the late war with Spain, and that of the British just now in South Africa, are enough to show us that there is no more serious peril to an army than this class of disorders, even under comparatively favorable conditions. What the sanitary problems of the medical staff in China will be, with the state of affairs that exist there, is a rather appalling question.

That the authorities are wide awake to the needs is shown by the precautions already taken, but not all the exigencies or possibilities of a campaign can be provided for, even with the best of foresight and care. If the war in China is to be prolonged over any considerable period of time there is no telling what medical problems will arise. The Chinese themselves may not prove an altogether contemptible enemy, even against the world, but whatever fighting injuries they can inflict seem to us to afford a far less serious prospect ahead than do the possibilities of army disease if the conflict is to be to any extent a protracted one, and our army has to be long on China's soil. If the troubles are to extend and involve the southern provinces of the empire there will be still other factors of disease to provide for than those mentioned. It is to be hoped that there will always be an intelligent co-operation between the military and the medical authorities, and that some of the mistakes made during our war with Spain will not be repeated. Matters are likely to be bad enough at the best, but any inconsiderate disregard of health needs by high military authority would make them incalculably worse.

QUACKERY IN FRANCE.

The bone-setters, magnetizers and the like that infest American civilization are making trouble also elsewhere. It is said that there is in France a regular school of magnetizer-masseurs that sends out its diplomated graduates to prey upon the public. This would not be a startling idea here, but one has had the notion heretofore that they manage these things better in France and that quackery had not so free a hand there. It is said, moreover, that the courts, with the same tendency of the legal mind that makes some of our jurists propagandists of Eddyism and lobbyists for osteopathy, show a tendency to recognize these frauds as legitimate medical practitioners. We have troubles of our own, but they make us none the less sympathetic with our French confrères.

THE NEW YORK MEDICAL JOURNAL.

Owing to the financial trouble of D. Appleton & Co., the *New York Medical Journal* has been sold, the new owner being Mr. A. R. Elliott, owner and publisher of the *American Druggist,* who conducts an advertising agency in New York. We are glad to note that Dr. Frank P. Foster, its efficient editor, has been retained. The *New York Medical Journal* is one of the old reliable journals of this country, has always been ably edited, and is recognized as one of the leading medical weeklies. It was started as a monthly in April, 1865, with Dr. William A. Hammond as editor. In 1871, the late Dr. Wm. T. Lusk and Dr. Jas. B. Hunter assumed the editorial management, these being succeeded by Dr. Frank P. Foster, in 1880, who has edited it since. In January, 1883, the journal was changed from a monthly to a weekly. D. Appleton & Co. became the publishers in 1868.

CHICAGO DIPLOMA MILLS.

The Chicago diploma mills that have by various names eluded the justice that the State Board of Health has sought to deal to them seem likely to be at last brought to book or at least seriously crippled in their future operations. Heretofore when legally suppressed under one name they could start again under another, since articles of incorporation were cheap and easy to secure in Illinois. Now, since Uncle Sam has taken a hand, as has been noticed in our news columns, the better part of their business, the advertising and correspondence portion, is cut off and bids fair moreover to bring serious trouble upon their operators. It is quite interesting to read the comments of the daily press upon this as compared to its stand when President Rogers tried to induce the last legislature to pass an act regulating the degree-giving powers of chartered institutions. Now it appreciates the discredit that the laxness of the laws has brought upon the city and state. Then it went spasmodically virtuous in behalf of the poor but worthy institutions that should not have their degree-conferring rights taken away by a grasping president of a highly-endowed university. Had Dr. Rogers' bill prevailed there would have been a few less small medical and other colleges in Illinois with the rights to give degrees, but there would not have been a continuation of the diploma-mill disgrace that has made Illinois degrees disreputable throughout the world. We are fortunate that our federal criminal code makes a crime of using the mails for purposes of fraud, but we should also have state laws strict and efficient enough to prevent it.

THE GLAMOUR OF THE ULTRA-SCIENTIFIC.

Dr. Patrick, in his Chairman's Address, published in this issue of THE JOURNAL, alludes to the charges that the neurologic specialists are practically therapeutic nihilists, and offers some figures that apparently point that way. In examining the issues for a year of four leading neurologic journals, he found that out of 199 original papers only three were on treatment, and out of 1033 abstracts only 74. In two years of two other high-class journals he found only one out of 115 original papers on a therapeutic subject, that is, he says, only 2.2 per cent. of the original contributions related to the cure or alleviation of disease. While his calculations are not altogether accurate, the figure is certainly a small one and if we are to accept it as indicating a tendency on the part of the neurologists especially, the showing would justify the charge. It ignores, however, the fact that treatment is not altogether neglected in articles in which it is not the leading theme. However, the neurologists have not been the only sinners in this respect, for the tendency to magnify the ultrascientific as contrasted with the merely practical is, so far as it exists, a common one in all the departments of medicine. There is a tendency on the part of some to be led off from equally important matters by the more showy, in a scientific point of view, results of pathology and clinical diagnosis. The tendency to minute observations seems, in a sort of way and to a certain extent, hostile to that broader view that covers the whole field, it may be said, more superficially, but in some ways more advantageously. We are apt to be captivated by the brass and glass of the laboratory and forget that it is just as important to know how to cure as to know how to diagnose a disease. The glamour of the ultrascientific is not confined to medicine alone, for almost the last public utterances of one of the greatest of American naturalists deprecated its existence amongst his fellow workers. It is well from time to time to have our attention called to such possible tendencies. The widening of medical science should not lead us to confine ourselves too exclusively to limited departments or let us fall into ruts. Medicine is a broad subject, but it is all the more necessary that its followers should be broad in their scope and not encourage too much their limitations by too exclusive attention to narrow fields.

PNEUMOTHORAX WITHOUT EFFUSION IN THE ABSENCE OF OTHER DISEASES.

The presence of air in the pleural cavity is known as pneumothorax, but it is only rarely that air is present alone, inasmuch as the causative factors are almost always irritating, if not actually septic; thus effusion also generally results, often serous and sometimes purulent, and the condition then becomes one of hydropneumothorax or pyopneumothorax. Air may gain entrance into the pleural cavity as the result of perforating wounds of the chest, perforation of the pleura through the diaphragm or the esophagus, or perforation of the lung. The last-named variety of perforation may occur in the normal lung from the rupture of air-vesicles, or as a result of local disease of the lung, and, also, in consequence of destructive or ulcerative disease of the pleura. Finally, pneumothorax may result from the generation of gas in the pleural cavity by the bacillus aerogenes. One of those rare instances in which the disorder appears in an apparently healthy individual, and is attended with effusion, was reported by F. Parkes Webber (*British Medical Journal*, May 19, p. 1224) at a recent meeting of the Clinical Society of London. The patient was a piano-fitter, 31 years old, with no previous history of pleurisy, hemoptysis, or pulmonary disease, and with no family history of pulmonary tuberculosis. Without violent strain or excitement, while at work, he was suddenly seized with pain on the left side of the chest, as if stabbed with a knife. Breathing gradually became embarrassed, and the pain was greatly increased by attempts at walking. When seen, a short time later, the respirations were about 30 and the pulse about 65. The movement of the chest was equal on the two sides, but no cardiac impulse could be felt. The area of cardiac dulness was displaced to the right of the sternum, and there were distinct signs of pneumothorax on the left side. When the patient was kept quiet in bed, the dyspnea and severe pain in the chest rapidly subsided. No splashing sound nor metallic tinkling was heard, and the signs of pneumothorax gradually disappeared in the course of thirty-two days. The first evidence of partial return to the natural condition was afforded by the absence of the bell-sound from the upper anterior portion of the affected side of the chest while the most persistent of the abnormal signs was the displacement of the heart. In the process of recovery from the pneumothorax the patient did not appear in any very ill. There was never any expectoration, nor sign of

pleurisy or pleuritic effusion of serum, blood or pus. It is pointed out that this case and others like it, including the rare instances of recurring pneumothorax, can be best explained on the supposition that a subserous emphysematous bulla has burst, or that a minute tuberculous nodule has broken down and established a communication between the air-passages and the pleural cavity.

CONGENITAL WORD-BLINDNESS.

The mechanism by which expression is given to thought is most complex, and the modes in which the defects thereof comprehended in the designation "aphasia" may arise are correspondingly varied. The faculty of articulate speech bespeaks an accumulation of sound-memories, and that of written or printed speech an accumulation of visual memories as well. In addition, the motor mechanism of speech must in each instance be intact. A lesion of the auditory center in the first temporal convolution of the left cerebral hemisphere may give rise to total inability to appreciate the significance of sound—mind deafness, while a more circumscribed lesion will be attended with inability to understand or to repeat spoken language and with inability to read and to write from dictation, while the power of voluntary speech and writing, and of writing by transcript, is preserved, although words may be improperly used—paraphasia. This condition is known as word-deafness. Sounds are heard, but are not properly appreciated, although sound-memories can be revived. Lesions of the visual area in the postero-inferior portion of the parietal cortex on the left side may prevent conceptions of visual impressions, a condition that is known as mind-blindness; while the defect resulting from less extensive lesions, that cause only loss of the visual appreciation of written or printed language, is known as word-blindness. Aphasia has rarely been observed as a congenital condition, and Henshelwood reports two cases under his own observation exhibiting congenital word-blindness, as well as two others recorded in the literature. In all of these four cases, while there was no impairment of vision proper or of general intelligence, there was difficulty in recognizing by the sense of sight the letters of the alphabet, and especially words, although figures occasioned no difficulty. The disorder is believed to be due to some congenital defect in the center for the visual memory for words and letters. It is pointed out that the faculty of reading comprises two stages: one in which the individual letters of the alphabet are stored up in the visual memory through the intermediation of the auditory faculties, and another in which visual memory of words is gradually acquired and stored up. These visual memories of letters and words are supposed to be registered in the angular and supramarginal gyri of the left cerebral hemisphere in right-handed persons, and any abnormality within this area, from disease, injury at birth, or defective development, would be attended with great difficulty in learning to read. It is pointed out, finally, that similar instances may be by no means so rare as the absence of recorded cases would lead one to infer, as they may be commonly overlooked. The importance of their early recognition must be obvious, as much can be accomplished by patient and persistent training.

1. The Lancet, May 26, 1900, p. 1506.

THE ACTION OF CELLULAR POISONS (CYTOTOXINS) OF ANIMAL ORIGIN.

One of the latest developments in pathology is the discovery and study of cytotoxins of animal origin produced by the injection of an animal with the various cells of another animal of a different species. The serum of the first animal gradually becomes toxic for the corresponding cells of the second animal. In this way there have been produced hemotoxins—substances that destroy red blood-corpuscles—leucotoxins—substances destructive of leucocytes—spermotoxins, destructive of spermatozoa, etc. Some reference has been made in these columns to these cytotoxic serums and their actions[1]. The fertile Metchnikoff sees in these demonstrations a number of far-reaching possibilities, and has busied himself in working out their application to human pathology and therapy. The success of serum treatment in diphtheria serves as an encouragement to work of this kind. This is the day of serums and of ferments, and everywhere investigators are engaged in preparing serums for the treatment of diseases of known as well as of unknown etiology. Returning to cytotoxins, Cantacuzène[2] has shown that the injection of small doses of hemotoxic serum has the paradoxic effect of greatly stimulating hematopoiesis, the red corpuscles of the rabbit mounting up to 9,000,000 per cubic mm., and hemoglobin reaching a value of 110; and Besredka[3] demonstrates that in small but repeated doses leucocytic serum causes a marked hyperleucocytosis. Metchnikoff, in conjunction with Besredka, reports an investigation of the action of serums of this kind in leprosy. For some time leprologists have been interested in the treatment of leprosy with the serum of Carrasquilla, prepared by injecting large animals with the plasma of the blood of lepers, and Laverde, produced by similar means, including the injection of the extract of leprous proliferations. Good results, but no full cures, have been obtained with serums of this character. Metchnikoff injected goats with defibrinated human blood; the serum of the goat soon acquired the power of dissolving the red blood-corpuscles of human blood. Two lepers were treated with injections in small quantities of the hemotoxic goat serum. Considerable improvement in the local lesions took place; about some of the nodules congestion and suppuration appeared, succeeded by cicatrization; the number of red blood-corpuscles increased unmistakably, also the quantity of hemoglobin. The local suppuration is explained as due to the increased number of phagocytic leucocytes produced by the leucotoxin present in the serum, and all the good effects are explained on the score demonstrated by Cantacuzène and Besredka to follow small doses of hemotoxins and leucotoxins. Besides, the action of the antileprous serums of the kind mentioned is to be ascribed to the presence of cytotoxins rather than to specific antibacillary substances. The general conclusion to be drawn from these novel experiments is that feeble doses of cytotoxins produce an increased activity of the corresponding cells. How far serum, containing hemotoxic and leucotoxic substances, may prove bene-

1 See editorial "Intercellular Struggles and Anticellular Serum," THE JOURNAL, xxxiii, 25; also "Spermotoxin and Antispermotoxin," Ibid., xxxiv, 10.

2 Annales de l'Inst. Pasteur, 1900, xiv, 378.

3 Ibid., 390.

field in other conditions, accompanied with anemia, awaits further study.

Medical News.

PROFESSOR TOLDT has been elected dean of the medical faculty of the University of Vienna.

KNIGHTHOOD has been conferred upon Drs. Hector Cameron, Glasgow, and G. Hare Philipson, Newcastle-on-Tyne.

THE MONUMENT to Lavoisier, the distinguished chemist, in Place de la Madeleine, Paris, was inaugurated by the Minister of Public Instruction, July 27.

THE MAHARAJAH of Gwalior has offered the Government of India for service in China a fully-equipped hospital ship, upon which he proposes to spend twenty lakhs of rupees, or more than half a million dollars.

RUSSIAN ARMY SURGEONS to the number of 180 passed through St. Petersburg on their way to Khabarovsk to join the forces proceeding to the front. Several strong Red Cross corps are soon to be sent to China via Moscow. At present 400 ambulances are in operation with Russian troops in the field.

THE NATIONAL Red Cross Association met in Washington, D. C., July 10, and reorganized under the act of incorporation granted at the last session of Congress. The old association passed out of existence and a new advisory board was chosen, consisting of fifteen members, five elected for three years, five for two years and five for one year. Miss Clara Barton was chosen president.

LEGAL proceedings have been instituted by the authorities against the assailant of Professor Pozzi, as the French penal code provides protection for magistrates

Professor S. Pozzi, Senator, President of the Club Médical de Paris.
(From the Gazette Médicale de Paris.)

in the exercise of their functions, and Pozzi's official course in the *Haute Cour* and the Senate was the cause of the attack. He has made every effort to have the matter dropped and prevent the expulsion of Dr. Devillers from the Medical Club, where the incident occurred which led to the famous duel.

THE TRANSPORTS *Grant* and *Sumner,* now on their way to China, carry twenty-five trained female nurses, a part of the thirty recently requested for service in the reserve hospitals in the Philippine Islands. It is thought that some of these nurses will be ordered for duty on shipboard in Chinese waters. There are now in service nearly 200 female nurses, who are doing excellent work in the reserve hospitals in the Philippines.

TUBERCULOSIS IN PARIS.—Nearly 26 per cent. of the deaths in Paris in 1899 were due to tuberculosis—12,314 out of a total mortality of 46,988. The percentage of tuberculosis mortality at various ages was as follows: 1 to 20, 37.2; 20 to 40, 60.2; 40 to 60, 30.5, and over 60, 3.3.

RECIPROCITY IN NEW JERSEY.—The State Board of Medical Examiners of New Jersey, on July 5, 1900, adopted the following resolution: "Resolved that this Board will indorse the license of any State Board of Medical Examiners in the United States, in lieu of an examination; provided, first, that the candidates for indorsement shall present satisfactory evidence of having the academic and medical education required by this Board, and that the license presented for indorsement shall have been issued after a State examination of the same grade and kind as that required by this Board.

PENNSYLVANIA.

DR. HORACE HEYSHAM succeeds Dr. J. E. Eisenberg in the Charity Hospital at Norristown.

DR. BERIAH EDWIN MOSSMAN, JR., Greenville, has received the appointment of resident physician in the Allegheny General Hospital.

THE DAIRY and Food Department announces that during June there were 119 suits brought against violators of the oleomargarin laws, resulting in fines amounting to over $1800.

SUSPECTED CASE OF LEPROSY.

The town of Olyphant is considerably exercised over a suspicious case of leprosy. Soo Kee, a Chinese laundryman, had for some time been suffering with a disease of the skin, and as it was suspected of being leprosy his laundry was closed. From the fear that the Board of Health would place him in quarantine the man packed up his belongings and left town.

Philadelphia.

DR. GEORGE E. DE SCHWEINITZ has gone to Europe.

DR. B. FRANKLIN STAHL will spend the summer at Rangely Lake, Me.

DR. EUGENE LANE VANSANT will be in attendance at the International Medical Congress at Paris.

DR. E. E. MONTGOMERY will sail at an early date for Paris, to attend the International Medical Congress.

DR. MELVIN M. FRANKLIN has been appointed a surgeon on the staff of St. Joseph Hospital, to fill the vacancy made by the resignation of Dr. John S. Miller.

THROUGH the bequest of Mary Rose Smith, $5000 has been given the Episcopal Hospital for the purpose of endowing a free bed.

THE PRIZE of $100 offered annually by Dr. John B. Deaver for the best report of the surgical clinics at the German Hospital has been awarded equally to Dr. A. G. Ellis and Dr. H. F. Godfrey. An extra prize was given Dr. Cooley.

THE CHILDREN'S Country Week Association is using every means to dispatch the children of the slums to the country as fast as possible during the hot weather. One day of the past week, 341 children and 71 mothers were sent to different outlying districts.

THE EXTREME heat which has prevailed here for the past ten days shows no signs of abatement. During the week, there have been upward of 150 prostrations and a large number of deaths from this cause. The same condition seems to prevail throughout the entire state.

MORTALITY STATISTICS.

The number of deaths occurring in this city during the week ended July 21, was 564; a decrease of 69 over that of last

week. The principal causes of death were: apoplexy, 13; cancer, 17; cholera infantum, 89; tuberculosis, 45; heart disease, 27; inflammation of stomach and bowels, 42; sunstroke, 17; diphtheria, 9; scarlet fever, 2; typhoid fever, 5.

PHILADELPHIA HOSPITAL.

DR. C. S. GANS has been appointed on the staff to succeed Dr. J. Abbott Cantrell, resigned. Dr. M. B. Hartzell was also elected a member of the corps. Dr. Ella M. Anderson was elected assistant physician to the department for the insane. The number of patients in the hospital was 3684, an increase of 95 over the corresponding period of last year.

SANITARY ASSOCIATION.

This association from June 7 to July 14 admitted 83,319 persons, an average of 2653 for each working day. The number comprised 10,990 adults, 9179 infants; 53,765 children from 2 to 10 years of age, and 11,385 over 10 years. Last summer 166,554 women and children were taken to and from the sanitarium on the daily trips made by the steamers.

BEULAH ORPHANAGE.

Since the discovery of the first "baby farm" in this city, the police seem to exert more diligence in looking after others which have been reported. In the latest one, called the "Beulah Orphanage," a child died some time ago under rather peculiar circumstances. The coroner therefore ordered an investigation, and learned that the "orphanage" was under the charge of two men, and that the child died without medical attention. On inquiring the reason for this, it was said that the plan was the "trust in God treatment," or faith cure. On being asked as to who first suggested the place, the answer was "The Lord by His Spirit." As to why the child had died without a physician having been called, the reply was "Our Faith in God Kept Us." The coroner told the men they could send for a lawyer, which children have been entrusted to the care of the Society for the Protection of Children from Cruelty.

MARYLAND.

NEW ASYLUM AT SYKESVILLE.

A large number of patients from the overcrowded wards of Springgrove Asylum were removed, July 19, to the new cottages at Springfield Asylum at Sykesville. The new buildings are intended exclusively for women, and are one mile distant from the male department. No men are allowed near, and there is entire absence of restraint, the patients going about at will. Bathrooms, bedrooms, diningrooms and loungingrooms are furnished almost luxuriously. The patients are encouraged to work, and while there is no compulsion, 85 per cent. of the male patients work willingly, either on the farm or in the industrial school. Mr. W. W. Spence, of Baltimore, has presented to the institution a handsome pool-table and equipment. The Waring system of sewerage has been put in, and all the buildings are connected by telephone. The crops are excellent, and 400 tons of ice are stored away, having been gathered by the inmates last winter.

Baltimore.

DR. H. BURTON STEVENSON has been appointed demonstrator of obstetrics at the Baltimore Medical College.

THE MEMBERS of the Baltimore County Medical Association enjoyed an outing at Tolchester, July 19.

A BOY, aged 14, died July 12, whose death is attributed to his having swallowed some of the water of Jones' Falls, a foul stream that traverses the city. He took a bath on July 4 and became ill the following day. There occurred symptoms of typhoid fever, delirium, and "dark spots all over his body." It is said that similar cases have previously been noted in this city.

NEW OFFICERS OF THE MEDICAL JOURNAL.

At a meeting of the *Medical Journal* company, held recently, the following officers were elected: president, E. J. Farber; vice-president, Dr. R. T. Wilson; secretary and treasurer, Dr. H. M. Simmons; Dr. John Fulton is editor-in-chief. The remaining directors are Drs. William Osler, John D. Blake, Wilmer Brinton and Hiram Woods.

MARYLAND MEDICAL COLLEGE.

This college, established about three years ago, will shortly erect a new hospital building to cost $25,000. The following appointments have recently been made in the faculty of the college: Dr. Harry Gross, elected to chair of operative and clinical surgery; Dr. Ernest E. Quandt, elected to the chair of chemistry and toxicology.

MORTALITY STATISTICS

The death-rate for the week ending July 14 rose to 318, 171 being under 5 years of age. The death-rate was 30.47 per 1000. The following show the effects of high temperature: Cholera infantum, 99; diseases of infancy, 35; dysentery, 9; sunstroke, 7; senile debility, 13. The last figure shows how fatal to the old are spells of very high temperature. It is rather remarkable that there should have been 14 deaths from pneumonia and 22 from consumption.

A MEDICAL IMPOSTOR.

A man claiming to be "Dr. Charles A. von Ahlefeldt, of the Staff of Surgeons in the Navy of Germany," has been victimizing the Stafford Hotel and some of the profession here. He occupied the best room and entertained freely. He went to the Hopkins Hospital in a hack, presented his card, and being a good talker, with polished manners, and representing himself as a German surgeon on his vacation, he soon ingratiated himself there and had the Hopkins surgeons repeatedly to dine with him. When the bills were presented he disappeared, leaving an indebtedness of $238. He appeared to be about 40 years of age, had a military bearing and was faultlessly dressed.

ILLINOIS.

STATE BOARD OF CHARITIES.

The quarterly bulletin of the state commissioners of public charities shows that the number of inmates of the several eleemosynary institutions at the beginning of the quarter was 10,220; at the close, 9251. The northern insane hospital had 1102 inmates; the eastern, 2248; the western, 661; the southern, 1097; the central, 1446; the charitable eye and ear infirmary, 356; the asylum for feeble-minded, 830; for the blind, 251, and for the deaf and dumb, 511.

Chicago.

DR. SARAH HACKETT STEVENSON sailed for Europe on the *St. Louis*, July 25.

DRS. D. W. GRAHAM and W. T. MONTGOMERY have just returned from a six months' trip abroad.

BY THE will of Timothy B. Blackstone, five institutions have received $25,000 each. Among them are St. Luke's Hospital and Passavant Memorial Hospital.

DR. EDWIN KLEBS, professor of pathology in Rush Medical College and director of the laboratory in the Post-Graduate Medical School, has resigned, and after a few months spent in Switzerland, will locate in Germany.

DR. NICHOLAS SENN'S article on "The Humane Side of Warfare," which appeared in THE JOURNAL, March 31, has been reproduced in full "by special request" in the *Indian Medical Record, Calcutta*, of June 13.

A CRUSADE against unsanitary rag and junk shops has been started. The chief sanitary officer has placed most of his force on this work and will compel every owner of this class of shops to comply with the health regulations. It is said that at present many of the rag-dealers are so anxious for business that they purchase rags which they know to be unsafe.

HEALTH DEPARTMENT.

The report of sickness and mortality for the week ended July 21 is very satisfactory, considering the various changes in temperature, humidity, etc., during that period. The death-rate per thousand was 12.78, which is a marked improvement on that for the corresponding week of 1899, which was 17.27. The total deaths from all causes were 454, 263 males and 191 females; 136 who died were under one year of age; 53 between 1 and 5 years, and 64 over 60 years. The principal causes of death were: acute intestinal diseases, 100; Bright's disease, 17; bronchitis, 11; consumption, 45; cancer, 21; diphtheria, 11; heart disease, 29; nervous diseases, 52; pneumonia, 15; suicide, 4; violence aside from suicide, 26; and sunstroke 15. During the twenty years from 1880 till 1899 the death-rate of the city has progressively decreased, as follows: 1880-1884,

12,319 deaths, 21.9 per thousand mortality; 1885-1889, 14,860 deaths, 19.2 per thousand mortality; 1890-1894, 25,363 deaths, 17.9 per thousand mortality; 1895-1899, 33,515 deaths, 14.2 per thousand mortality. The decrease has been marked as regards infant mortality. In 1880-1884 the deaths under 5 years of age were 52.2 per cent. of the total; in 1885-1889 this percentage was reduced to 48.7; in 1890-1894, to 45.5, and in 1895-1899 to 38.8.

Thirty-four cases of diphtheria were reported during the week, 34 of scarlet fever, and 2 of measles. There were 466 samples of milk and cream analyzed in the laboratory, 6 per cent. of which were found below grade. No new cases of smallpox have been discovered. Twelve individuals who had been exposed to contagion from the case last reported, and who had not been previously vaccinated, were vaccinated, and in each case typical primary results followed.

KENTUCKY.

Louisville.

GRAY STREET INFIRMARY.

THE GRAY STREET Infirmary will enlarge its building considerably, and will construct a modern private operating-room.

DR. THOMAS S. BULLOCK, because of pulmonary trouble, has been compelled to remove from Louisville to Colorado. His successor in the University of Louisville has not yet been appointed.

DR. JOHN G. CECIL, who resigns the chair of theory and practice of medicine in the Louisville Medical College, has been elected to succeed Dr. Bailey. Dr. Cecil was formerly assistant to the chair of obstetrics and gynecology in the University of Louisville, before his election to the chair in the Louisville Medical College, which he has held for four years.

Dr. WILLIAM BAILEY, who for fifteen years has occupied the chair of the medical department of the University of Louisville, has resigned his position because of failing health. Dr. Bailey is a member and ex-president of the American Public Health Association, ex-president of the Kentucky State Medical Society and a member of the State Board of Health. He was a member of the Faculty of the Hospital College of Medicine before his association with the University of Louisville.

SUMMER VACATIONS.

Dr. J. B. Marvin and family will spend the month of August in Nova Scotia; Dr. L. S. McMurtry and Dr. J. M. Mathews will spend August at Rockaway Beach with President-elect C. A. L. Reed; Dr. Henry E. Tuley will spend his vacation the latter part of August at Woodmont, Conn.

KENTUCKY UNIVERSITY.

The Medical Department of the University will erect a commodious chemical laboratory building in the campus adjoining the college building, so as to make a large amphitheater in the upper portion, with a seating capacity of 350.

DOES NOT REFER TO THEM.

We are in receipt of the following protest from Dr. M. F. Coomes, of the faculty of the Kentucky School of Medicine:

To the Editor:—Our attention has just been called to a criticism of a medical college by the Illinois State Board of Health, published in THE JOURNAL of July 7, p. 45. As this criticism refers to no particular school, but mentions that the gentleman matriculated in January, and was to have been graduated about the 1st of July, it must be considered to apply to one of the only three schools in this country that begin sessions in January and close in July, namely: the Kentucky School of Medicine, the Hospital College of Medicine, and the Medical Department of Kentucky University, all located in Louisville. As a member of the faculty of the Kentucky School of Medicine, I appeal to your sense of justice, and request that you publish this letter, and give the name of the school referred to.

In a letter of same date Dr. P. Richard Taylor, Secretary of the Hospital College of Medicine, says:

I do not wish to put any school in an awkward position, but I do not want the Hospital College of Medicine to receive censure for the violation of the Association's rules when the blame justly rests elsewhere. I think an explanation of the article through the columns of your journal is due the Hospital College of Medicine.

As Drs. Coomes and Taylor deny that the item refers to the colleges they represent, it is not necessary to mention the name of the college referred to, especially since it has acknowledged its mistake by correcting it. Further, there are six medical colleges in the United States whose sessions begin in January—not three, as stated by Dr. Coomes.

NEW YORK.

DR. MARY L. BENOIT has been appointed physician at the State Custodian Asylum for Women at Newark.

DR. WILLIAM A. WHITE has been appointed first assistant physician at the Binghamton state hospital.

New York City.

THE Brightside Day Nursery and Kindergarten is to have a new five-story brick structure that will cost $35,000.

DR. LUCY HALL-BROWN sailed on the *Mesaba*, July 14, for Europe. She is a delegate to the Congress of Hygiene, the International Medical Congress, the Congress of Electro-Therapeutics, and the Congress of Secondary Education.

A FIVE-STORY brick hospital building for the German Hospital and Dispensary is to be erected at a cost of $120,000. Plans for changes in the building adjoining the above site at a cost of $30,000 are also before the building bureau.

THE FLOATING HOSPITAL.

The twenty-fifth anniversary of the St. John's Floating Hospital was celebrated by a trip down New York bay by members and officers of the guild. These, together with the children, left the dock on the *Emma Abbott* and returned to the city on the *Helen C. Juillard*. The *Emma Abbott* was the first boat fitted up by the Guild as a floating hospital, and, since her first trip, on July 19, 1875, she has carried 826,312 mothers, sick babies, and delicate children. The first three years of her service she made three trips a week from two landings, and from that beginning the work has increased until now two boats make six trips each a week from the two sides of the city, touching at Harlem, Williamsburg, and Brooklyn, and from 500 places of distribution tickets for the trips are given out to the mothers of children who need the fresh air and attention of the nurses and doctors, with good sweet milk, a substantial dinner at noon for the older ones, and salt-water baths for all. The trained nurse department was started in 1887, the salt-water bathroom the following year, and improvements large and small have been made each year until a system of handling and treating children almost perfect has been reached. The salt-water bathroom on board of the boat is one of the ideal features.

INDIANA.

DR. F. M. WELLS, Charlestown, has been appointed a surgeon in the United States Army, with the rank of captain, and has been ordered to Manila.

Indianapolis.

AT A concert given recently for the benefit of the Eleanor Hospital for Sick Children, about $150 was made.

THE NEW staff of St. Vincent's Infirmary has been appointed, as follows: visiting physicians, Drs. Frank Morrison, C. E. Wright, W. M. Wright, R. O. Alexander, S. E. Harp, Hannah Graham, C. Hadley, A. B. Graham, F. Wynn, T. Potter and E. A. Brown; visiting surgeons, Drs. J. H. Oliver, J. H. Ford, H. O. Pantzer, J. A. Sutcliffe, W. M. Wright and D. Ross; eye and ear, Drs. J. L. Thompson, F. A. Morrison, D. A. Thompson and J. J. Kyle; gynecologists, Drs. L. H. Dunning and O. G. Pfaff; rectal surgery, Drs. Geo. J. Cook and A. B. Graham; obstetrics, Dr. L. Burkhardt; throat and nose, Dr. L. C. Cline; house physicians, Drs. D. M. Reynolds, R. Hester and G. L. Guthrie.

LOUISIANA.

The following additions have been made to the staff of the New Orleans Polyclinic: E. M. Dupaguier, professor of clinical therapeutics; Otto Lerch, clinical diagnosis; J. J. Archinard, clinical microscopy and bacteriology; H. S. Cocram, clinical gynecology; J. A. Storck, diseases of the digestive apparatus; F. A. Larue, operative surgery and applied anatomy. The same institution has purchased the New Orleans Sanitarium, which will be conducted, as heretofore, in connection with the New Orleans Training School for Nurses, but on an extended scale.

MINNESOTA.

DR. PERCY ALING has been installed resident physician in Stillwater City Hospital, to take the place of Dr. T. R. Thomas, resigned.

DR. F. F. WESTBROOK, director of the state bacteriologic laboratory, has made a report on rabies. Since October, 1896, 31 positive cases have been examined. St. Paul had 8, Minneapolis 5, Montevideo 4.

THE STATE Board of Health has recommended that medical inspectors be employed by the boards of education in the various cities of the state. They believe that it would be of special advantage at the opening of the school year.

CONNECTICUT.

DR. HENRY FLEISCHNER has been elected president of the New Haven Board of Health.

DR. G. W. RUSSEL, of Hartford, has been elected president of the medical board of the asylum for the insane at Middleton, and Dr. G. R. Shepherd, Hartford, secretary.

THE REPORT of the State Board of Health for the month of June shows that there were 1121 deaths, being 100 less than were reported for May, and 73 more than were reported for June of last year. The death-rate was 15 for the large towns and 14 for the small towns, making it 14.7 for the state.

NEW JERSEY.

DR. FRANK SCOTT GORDON has been appointed assistant house physician in St. Nicholas Hospital, Newark.

DR. W. W. FOX, formerly resident physician in the Atlantic City Hospital, has accepted a post in the Orthopedic Hospital, Philadelphia.

THE STATE dairy inspector is conducting an examination into the quality of the milk furnished by dealers in different parts of the state. In Bridgeton, two persons have already been arrested for selling milk of a poor quality, and a number of dealers in Trenton will shortly be arrested for using formaldehyde as a preservative.

CALIFORNIA.

A NEW hospital will be commenced at once in Redding, plans having been accepted for a $10,000 structure.

AT THE annual election of officers of the San Jose Board of Health, held July 14, Dr. J. Underwood Hall was chosen president, and Dr. Robert Caldwell, secretary.

THE NEW St. Luke's Hospital in San Francisco will have four large pavilions, and work will be commenced immediately on one, for which $50,000 has already been appropriated. For the entire group about 225,000 will be required.

OHIO.

DR. JOHN UPHAM has been appointed to the department of the principles of surgery and clinical surgery in the Ohio Medical University at Columbus.

THE OPENING of the new Lawrence Hospital in Columbus occurred July 6. It will be devoted exclusively to the treatment of women. Dr. F. F. Lawrence will be surgeon in charge and chief of staff. Dr. Starling Loving is consulting physician, and Dr. E. G. Carpenter, neurologist.

CANADA.

British Columbia.

THE FIGHT over lodge practice continues in Victoria, B. C. The doctors have now carried their grievances into the lay press. It is understood that the two physicians who were expelled from the Victoria Medical Society on account of contracting with the societies, have abandoned the work, but are still at loggerheads with their confrères.

QUARANTINE ON THE PACIFIC COAST.

Dr. Montizambert, Director of Quarantine, has left Ottawa, accompanied by Dr. Higgins, of Montreal, a skilled bacteriologist, for British Columbia, for the purpose of investigating the conditions under which the quarantine service is being maintained along the frontier and at Pacific Coast points. The Director-General will make a personal investigation with a view of determining whether the present quarantine restrictions governing travel in Canada may be relaxed, as it is now understood that the outbreak of smallpox in the American mining camps has been completely mastered by the medical authorities there. Then the drawbacks to travel by steamer between the United States and Canadian points in the West will be minimized as far as possible, provided no risk will be run of the disease entering British Columbia. Dr. Higgins has been appointed assistant to the quarantine officer at Williamshead, B. C. This appointment has been made at the present time, as one can never tell at what moment a suspected case of plague might be landed at the Williamshead quarantine, and the importance of having a practical and proficient bacteriologist on the spot, prepared for any emergency, is apparent.

Toronto.

DR. W. LASH MILLER, who since the resignation of Professor Pike has been acceptably filling the chair of chemistry in Toronto University, has been offered and will accept a position on the staff of Cornell University. He has been connected with the department of chemistry here for many years, is a Ph.D. of Munich University, and his loss will be a keen one to Toronto, for he is looked upon as one of the strong men in chemical science.

THE CONTAGIOUSNESS of consumption and the dangers to the public from the proximity of a consumption sanitarium has been aired in the Toronto courts this week. A short time ago Dr. Playter rented a dwelling-house on the northern confines of the city and started in to run a consumption sanitarium. The neighbors objected; and the medical health officer condemned the institution in unmeasured terms. Judgment has been deferred, but it is altogether likely that it will be discontinued, as public opinion in the neighborhood is too strong against it.

Montreal.

SMALLPOX is spreading rapidly. Four deaths occurred during the past week, and six new cases have appeared in different parts of the city. Nine doctors have been engaged by the Hygiene Committee to go the rounds of the houses, to see if persons have been vaccinated, and if not, to vaccinate all who do not oppose the operation. Those who refuse will be reported to the health officer, who will decide what shall be done with these cases.

THE DEATH-RATE in Montreal the past week was exceedingly high. No less than 116 children died. The normal death-rate, including children and adults, is 125 per week. The total number of deaths in the city last week was 199. The principal causes of death were as follows: infantile debility, 116; diphtheria, 2; scarlet fever, 5; typhoid, 1; smallpox, 1; and consumption and other chest diseases, 30.

REPORT OF CASES OF TYPHOID FEVER IN THE ROYAL VICTORIA HOSPITAL IN 1899.

Ninety-eight cases of typhoid fever were treated in the wards of this hospital in 1899. Of these, 65 were male and 33 female. The mortality was higher for 1899 than for any other since the hospital was opened, there being seven deaths, or a mortality of 8.16 per cent. Hemorrhage was the cause of three deaths; another from hemorrhage and perforation; another from perforation alone; and two cases from profound intoxication. On an average the patients were admitted on the seventh day of the disease. With reference to the age, the average age of all the patients was 23 years, the youngest being 5½ years; the oldest 58. Under 10 years there were 4 cases; between 10 and 20, 21 cases; between 20 and 30, 40 cases; between 30 and 40, 16 cases; between 40 and 50, 4 cases; over 50, 1 case. During August the largest number of cases were admitted; the smallest during the month of December. Of these 52.3 per cent. developed during July, August and September; 18.6 per cent. during April, May and June; 18.4 per cent. during October, November and December, and 11.7 per cent. during January, February and March. The average number of days in the hospital was 39.5 days; the average duration of fever was 24.6 days; the longest period of fever was 58 days, while the shortest period was 8 days. A study of the symptoms is interesting: in 95.4 per cent. of the cases the onset was gradual. In two of the cases pain in the abdomen was severe, localized and of sudden onset, simulating appendicitis. Chills occurred at the onset or during the first week in 17.4 per cent. Enemata were given in all cases of constipation. Epistaxis occurred at the

onset in 18.6 per cent. Vomiting was present at the onset in 34 per cent. of the cases. Delirium was present at the time of entry into the hospital or during the course of the disease in 18.6 per cent. of the cases, and in nearly every case it was of low muttering character. An eruption was present in 73 per cent. of the cases, the earliest appearance of the rash being on the fourth day, the latest appearance on the fortieth day of the disease. In one the rash appeared only during the relapse. The shortest duration of the rash was three days; the longest, 27 days; the average, 11 days. The spleen was palpable in 67.4 per cent. of the cases; in one on the first day of the disease; on the average, it was palpable for twelve days. A definite relapse occurred in 11 cases, 12.7 per cent. The longest duration of relapse was 29 days; the shortest, 8 days; the average, 18 days. The highest temperature recorded was 106.4. The average maximum temperature in all the cases was 103.4 F. With regard to the Widal test, this test was employed in all the cases, and in only 4 of them was it negative throughout the course of the disease; three of these were regarded as abortive typhoid. The reaction appeared in one case as early as the fourth day of the disease. In one case it was not positive until the 18th day. It was present on the average on the 8th day. The reaction has been tried in six cases at date of discharge from the hospital, and in every case has been positive. The following is a summary of the number of cases of typhoid fever admitted into this hospital for the six years ended 1899: In 1894, 84 cases, 3 deaths; 1895, 84 cases, 4 deaths; 1896, 72 cases, no deaths; 1897, 75 cases, 7 deaths; 1898, 93 cases, 4 deaths; 1899, 86 cases, 7 deaths.

New Brunswick.

MARITIME MEDICAL ASSOCIATION.

The tenth annual meeting of this Association was held in the city of St. John on the 18th and 19th of July, there being an exceptionally large attendance present. In welcoming the Association, Dr. Christie, the president, was followed by Mayor Daniel, himself an M.D., who closed his address by referring in a touching manner to the death of Lieutenant Borden in South Africa, who before offering his services in the Transvaal was a third-year medical student at McGill, and who was the only son of Canada's Minister of Militia, the Hon. Dr. Borden. Mayor Daniels moved a resolution of condolence to Dr. Borden, which was seconded by Dr. Farrell, of Halifax. Drs. Daniel, Farrell and McLellan were appointed a committee to draw up the resolution of sympathy. On the afternoon of July 18, the members of the Association were taken down to Partridge Island and given an opportunity to inspect the quarantine station there, which possesses the most modern disinfecting plant in the Maritime provinces. Later on, in the afternoon, the medical graduates of McGill College met in the Medical Society's rooms, Dr. Scammell in the chair. In the place of the provincial societies, the Maritime graduates decided to substitute the Maritime Society, with the following officers: Dr. W. H. Hattie, Halifax, president; Dr. J. H. Scammell, St. John, first vice-president; H. D. Johnson, Charlotte County, second vice-president; G. G. Corbett, Musquash, secretary-treasurer; executive committee, F. H. Wetmore, Hampton; C. M. McLean, Sussex; J. G. MacDougall, Amherst; Alex. McNeill, Kensington, P. E. I. They will meet next year in Halifax on the day previous to the meeting of the Maritime Medical Association. The papers read at the meeting of the Association were of the first order, and the discussions were keen and interesting, the meeting being a pronounced success and one of the most successful in the history of the Association.

Prince Edward Island.

PRINCE EDWARD ISLAND MEDICAL SOCIETY.

The annual meeting of the Medical Society took place on the 5th and 6th of July, and there was a large attendance. Advertising was a theme for much discussion, as there had been several who had been complained of on account of the publication of "brilliant" operations in the lay press. It was unanimously condemned by the Society. The election of officers resulted as follows: president, Dr. Sutherland, Bedeque; vice-president for Prince County, Dr. Rose; for Queen's Dr. W. Robertson; for King's, Dr. Barnes; secretary, Dr. S. R. Jenkins; treasurer, Dr. F. F. Kelley.

PARIS LETTER.

HOW THE CONGRESS WILL BE REPORTED.

It is not known as yet how the daily reports of the meetings of the Thirteenth Medical Congress will be published. The *Bulletin Médical*, which is under the direction of Professor Graucher and Professor Lannelongue, the president of the congress, was to have undertaken this work, which would cost about $500. This paper would have borne the title of "Official Journal of the Congress." Everything had been decided, but unfortunately one of the members of the syndicate of the medical press was not present at the meeting which took place, and he objected to this title being given to the paper, saying that such a course had never been followed before. As a result of these complaints, the director of the *Bulletin Médical*, Dr. Janicot, has given up all idea of doing the work, and at present it is hard to say how it will be carried out. Dr. Chauffard, the secretary of the congress, is at present occupied in finding some means of getting together a sufficient number of men to write out the reports by stenography. Such an undertaking would necessitate ample time and can not be undertaken at such short notice, so that as far as official reports are concerned, it may be questioned whether any very good result will be obtained. A description of the medical exhibit in the Ville de Paris building has already been given. Besides this there are, of course, at the Champs de Mars different sections where surgical instruments are shown. At the end of the Champs de Mars, on the right-hand side, the Presbyterian Hospital of New York has established an exhibit representing part of its hospital equipment. There is also an exhibit of the "Femmes de France." This association of the Women of France was founded some six or seven years ago, and is intended to render service in time of war. One of the small steamboats that carry passengers on the Seine was chosen as a means of showing how the transportation of wounded can be carried out, and the advantages that accrue from using this means of moving them from place to place. A species of tent has been raised over the middle part of the boat, and such cases as are not too badly wounded would be placed under this awning. The hammocks are hung by springs so that jarring is prevented, and the floor is covered with linoleum. This is not a type of a hospital-ship, but only serves to illustrate one of the most advantageous methods of carrying the wounded.

The Secretary-General, Dr. A. Chauffard, states that special and independent rooms will be set apart for the different national committees, in the buildings of the Faculty of Medicine. The members of the Congress will find installed, a post and telegraph office. The members can have their correspondence addressed as follows: Dr. X——, Membre du XIIIe Congrés International de Médecine, Paris.

THE NEW TREATMENT OF PHLEBITIS.

One of the subjects of discussion "à l'ordre du jour" in the hospitals is the new treatment of phlebitis, advocated by Dr. Dagron, a former interne of the Paris Hospitals. The leading feature is the use of massage to prevent ulterior stiffness and loss of power due to prolonged immobilization. Instead of following out the routine treatment of keeping the patient in bed for a very long period, Dr. Dagron, in his recent article in the *Presse Médicale*, advocated massage after the first general symptoms were over. During the first week, or rather as long as general symptoms of infection exist, nothing should be undertaken. The case should be watched, and perfect quiet and rest of both limbs insisted on. Two days after all general symptoms have disappeared and the edema has begun to diminish, mobilization can be undertaken very gently at first. These movements must be undertaken by the physician, and should be tried in a progressive manner from the foot upward. The toes are to be flexed and extended, and made to describe different movements, the tarsus and metatarsus are brought into play, but great care should be undertaken not to flex the thigh upon the pelvis, however. It should be borne in mind that no pain should be caused by these movements. The following days the patient herself can undertake these movements without following out any special order, but during the course of the second week, no flexion of the thigh should be allowed, and the patient must not be allowed to sit up in bed. During the course of the second week an experienced anatomist would have been able

to map out the dangerous zones and the safe ones, and exercise a little gentle massage. At this period the education of the venous circulation can begin. The patient can be placed with her legs hanging outside the bed, and in this position they will of course get congested and edematous. A little gentle massage will be found of service afterward. A few days later she can be placed on an inclined plane and lifted up to an angle of 45 degrees, then perfectly upright. During the fourth week some passive movements of flexion of the thigh are carried out; the patient is allowed to make a few steps; the latter should be of the same length. No sticks nor crutches should be allowed, so as to prevent any bad habits being acquired. A certain amount of redness and edema may appear, but will vanish after rest in bed. As for trying to sit up, it is found useful to use a number of cushions to cause variations in the angle allowed. When this has once been carried out, the patient can be told to carry out the treatment by herself. Dr. Dagron would seem to have derived good results from this form of treatment.

SYPHILIS OF THE INTESTINES.

At the last meeting held by the Academy of Medicine, Dr. Lereboullet and Dr. Fournier spoke on a very rare affection: syphilis of the intestine. Dr. Lereboullet spoke of a case where he had found symptoms of enterocolitis, abdominal pains, and discharges resembling the expectoration in pneumonia. There was also noticed pronounced swelling of the cervical, axillary and inguinal glands. The patient had a history of syphilis. Dr. Fournier advised a syphilitic treatment which was carried out by using injections of mercurial oil and iodid of potassium. After eight days the patient had improved very much, and after a certain lapse of time he was quite transformed. Dr. Fournier said he had only seen twelve cases of this disease in his practice, and added that it was often enough not recognized. Dr. Fournier also spoke of infantile diarrhea, which was sometimes due to hereditary syphilis, and would be readily cured by the use of Van Swieten's solution. Mercury was the best preparation, as it had a fundamental and eradicating action, iodid of potassium could only efface temporarily the lesions that had been formed. External treatment should be used so as to spare the intestines and stomach, and frictions or injections employed.

IS SYPHILIS A PRODUCT OF THE OLD WORLD?

It has been a question often brought up to know whether syphilis was of European or American origin. Dr. Zambaco Pacha, who has become quite an authority on such subjects as leprosy, Morvan's disease and kindred affections, presented some photographs of bones found in Upper Egypt, and dating from eighty centuries back. The bones showed indications of suppurative osteitis, and enlargement of the femora, tibiæ and peronea was plainly perceptible. The disposition of the lesions was such that Professor Lannelongue admitted that they seemed to be of syphilitic origin. This would seem to prove that syphilis has existed in the Old World from primeval times. Dr. Fournier examined the photographs and declared that there was no sure sign that the lesions were of syphilitic origin. The simple examination of a bone is not sufficient to demonstrate the existence of syphilis. The common varicose ulcer produces sometimes hyperostosed tibias which are similar to those caused by syphilis; the same can be said of typhoid fever. Dr. Zambaco insisted on the great number of lesions observed, but Dr. Fournier said that tuberculosis would sometimes produce similar results.

Correspondence.

The Plague.

NEW YORK, July 18, 1900.

To the Editor:—May I presume to commend entirely your most timely and well considered article upon the plague situation in San Francisco? The infection with plague of San Francisco's Chinese quarter; the destruction by fire of such a shameful aggregation somewhere in American territory—and the consequent scattering of infective material broadcast—and the tedious and hampered efforts to control the infection, which can not be assured and can only succeed as the result of the most patient attention and inconceivable expense, were matters of confident prediction by me as long ago as the summer of 1896. The present justification of my then statements is not a matter for rejoicing: but I do take unusual pleasure in stating that the only persons who interested themselves in studying the bacillus of plague, which I brought to the United States with me then, were Dr. Douglas W. Montgomery, of San Francisco, and then P. A. Surgeon J. J. Kinyoun, United States Marine-Hospital Service, who was at that time in charge of the bacteriologic laboratory of his service in Washington. The singleness of purpose and the devotion of these gentlemen to true professional ideals are beyond any commendation of mine; but I am endlessly pleased at your thorough recognition of their intents.

In conclusion, I trust that my interest in the matter of plague and my slight acquaintance with it may justify these protests against current errors: 1. That humbleness of station in life and disregard of occidental ideas of personal or of domiciliary cleanliness are essential factors of predisposition to plague. It might, I think, quite as reasonably be contended that a thoroughbred horse is not as liable to glanders as a cart-horse, nor so likely to die of the disease, should it nevertheless have been contracted. I should not consider it a mistake to repeat to the laity, with the iteration and insistence of a machine-gun, that plague, like glanders, and the various specific acute infections to which nearly all animals in their turns are subject, seems to have been designed *to kill*, and that there is much evidence to show that it will do its work fairly well under almost any conditions. Its unusual danger lies in the fact that it may be spread by many more diverse agents—such as the rodents, blood-sucking insects and vermin—than most other acute infectious diseases. 2. The weak, not to say maudlin, wails that there is no specific against its ravages. Haffkine's inoculation is a reasonable protection during active exposure; and Yersin's serum affords more chances of recovery to a victim seized by it than is usually believed, so it seems to me. I hold it greatly to the shame of the hygienists of the United States that the work of this single-minded man of science should have been almost entirely neglected in this country. 3. That street-cleaning and the like is more important than the insuring of correct death certification. By knowing absolutely what is being dealt with and by the correct management of cases as they occur, *and by these means only*, in the humble opinion of the undersigned, may plague be successfully dealt with. And the cost will be large—very!

Yours most sincerely,

W. F. ARNOLD, P. A. Surgeon, U. S. N.

The Paris Exposition.

To the Editor:—I send you this, thinking that a letter relative to medical and surgical matters at the Exposition might be of interest to readers of THE JOURNAL.

The exhibits in this line constitute Class 16 in Group 3 of the catalogue, and include not only everything pertaining to medicine and surgery but also all objects dental and the instruments of the veterinary surgeon. The jury for this class is composed of fifteen members, only three of whom are not Parisians and one of these three is a Frenchman, viz., the noted surgeon, Reverdin, of Geneva. Only one member is not a physician, Leclerc, our secretary, and also a leading local manufacturer of surgical dressings, sutures, etc. But one of the resident members is not a native-born Frenchman, though he has lived in Paris for the past fifteen years. I refer to Dr. de Christmas, who is a Dane, and is physician to the Danish legation here. For the rest, they are men of high standing, being, for the most part, professors to the Faculty of Medicine and members of the Legion of Honor, and all are Fellows of the Academy of Medicine. The president of the jury is Professor Pinard, the obstetrician. Then there are Galippe, chief of laboratory to the Faculty of Medicine; Pozzi, the gynecologist, at present also senator of France; Professor Berger and Dr. Tuffier, the well-known surgeons; Nocard, the head of the Agricultural and Veterinary School at Alfort; Professors Dentu, Hartmann, etc. The two other members are Eschbaum, of the orthopedic firm at Bonn, for Germany, and myself for the United States. Our work, which is now almost completed, has been most interesting, agreeable and instructive.

All the prominent countries are fairly represented, yet it is much to be regretted that the United States did not send specimens of the products of a greater number of her leading houses, who understand so thoroughly the art of making things coming under this class. There are, in all of our large cities, makers of instruments and of other medical, surgical, dental, or veterinary supplies, who would, doubtless, have done well to show their wares. Such names, for example, as Tiemann, Meyrowitz, S. S. White, and Dohme, to say nothing of many others, do not appear upon the list. In view of these facts it were almost a pity that we have not a national law similar to that of certain of the European countries, known as "Imperial Decree," which dictates concerning by whom the nation desires to be represented in any exposition, and also as to what articles shall constitute the exhibits.

One of the beneficent provisions made by the managers of the exposition is that practically all of the objects shown in any given group or class are situated close together in one building; mostly all of those in our group, for instance, can be found in the northwest wing of the structure on the Champs de Mars. A few of the smaller nations, however, such as Greece, Roumania, and some of the lesser South and Central American republics, have these exhibits installed in their government pavilions.

We began our work with the French exhibits, among which we examined examples of the best output of 125 different manufacturers, of whom, not to exceed a bare half dozen are located outside of this wonderful city itself. This means that Paris is not only the medical center of France, but of a large portion of the civilized world, besides. Many of us in the United States have no proper conception of this fact. We are, as a rule, fully cognizant of the importance of Great Britain, Germany, and Austria as regards their medical men, literature, institutions, discoveries, and manufactures, all because of the dominant races which make up the bulk of our 78,000,000 of inhabitants. We have not among us a sufficient number of those whose knowledge of France and whose sympathies with her are great enough to divert thither a just proportion of the vast armies of American students of medicine which are constantly invading Europe. But we will learn better—we are learning better.

In keeping with the enterprise which is characteristic of Frenchmen of affairs in general, has been that manifested by these exhibitors; and, in comparison with that evinced by other nations it redounds vastly to the credit of the former. By timely notices each one is warned as to what day he may expect the jury to visit his show-case. Our Gallic friend is always ready. If, for any reason, he can not be present at the appointed time, he comes before the jury in the committee-room, and asks for another occasion. Arrived at his space we find a table upon which to place the objects to be examined and chairs to seat the jury. He does not leave to a trusty foreman or other employee the demonstration of the articles on which hang his reputation, but he is on hand in person. He knows just what it is incumbent on him to show, he knows how to show it, and he knows—as none other does—how to talk to the point. Moreover, an average Frenchman is more than an average orator. Even the most arrant and unmitigated quack or charlatan among them—and we came across several of these—can almost make something out of worse than nothing.

In another letter I hope to tell of some of the more interesting things we have seen in our particular department. It may not be amiss to state in closing, by the way, that we have seen many models and embodiments of ideas which I have been proudly and confidently regarding as of American origin, but I have heard very few attributed to that blessed source.

CHARLES H. BEARD, M.D., Chicago.
Member International Jury of Awards, Class 16.

Colored Tents for Hospital Corps.

NEW YORK, July 20, 1900.

To the Editor:—I note in THE JOURNAL for July 21, under the above caption, a letter from T. R. Perry, M.D., of Alabama, in which he makes a very apt suggestion; but would like to bring the fact to the notice of all concerned, that the National Volunteer Emergency-Service Medical Corps is the only organization in the civilized world making use of a distinct medico-military system of immediate identification. We have tents alternately striped green, red and white, the colors of our corps; our flag is also eminently distinct and appropriate; and our uniforms are gray, trimmed with green and red, easily distinguished, and neat and clean; thus our medical officers are instantly recognized. It is hoped to make this system international, some of the foremost powers have given favorable consideration to our plans already. Our office at 304 West 104th Street, will be pleased to furnish any specific information desired.

J. ADELPHI GOTTLIEB, M.D.

Association News.

Is Your Address Correct?

A list of members of the AMERICAN MEDICAL ASSOCIATION will be published in an early number of THE JOURNAL. It is important that this list be correct, and we would, therefore, ask each member to examine the label on his wrapper and, if not correct, notify us immediately so that the name may be correctly printed in the list. Subscribers who are eligible for membership and desire to be enrolled are requested to make application at once so that their names also may appear in the published list.

American Medical Association.

The following are a few of the comments on the last meeting of the ASSOCIATION:

The American Medical Association at Atlantic City.—The month of June is almost universally acknowledged to be the most delightful of the year, hence it is a fortunate time for the meeting of the greatest medical organization of the land. When, added to this, it chooses its place on the seacoast to hold its annual convention, especially at so charming a point as Atlantic City, there is little left to be desired as to time or place for such a gathering of distinguished men and women from all parts of the country.

The meeting held June 5-8, 1900, will ever be conspicuous for size, quality of attendance and work done, and for good feeling engendered. The weather was delightful the whole time, and everybody seemed contented and happy. The sections were well managed, and the attendance at each was more than ordinarily good, while the work in some was of a conspicuous character. The weekly journals have chronicled this and we shall content ourselves with this general allusion to the general fact.

The registration was over 2000, which classes the meeting among the largest ever held. This is an indication of the growth of the republic and of the increasing interest manifested in the advancement of medicine along the lines of scientific research. In the distribution of the offices there were no manifestations of unfairness, hence there are no heartburnings left behind. The two most conspicuous candidates for the presidency were men of acknowledged ability and both were well equipped for the task. Dr. Wheaton, of St. Paul, is one of the most eminent surgeons of the Northwest, and every way worthy of the place for which his friends urged him with a spirit of manliness that deserved success. That he was not chosen is no reflection on the candidate or his followers. The spirit in which the canvass was conducted augurs well for his success next time.

Dr. Charles A. L. Reed, of Cincinnati, the president-elect, came to his office with a prestige vouchsafed to few, and perhaps surpassed by none. He is in the very prime of a well-rounded manhood, a scholar of ripe culture, natural and graceful speaker, and has an acquaintance with the profession in the Western hemisphere second to no member of the Association. That his administration will result in great advantage to the cause of medical science admits of no reasonable doubt. By a sad *contre-temps* Dr. Reed was summoned home on account of a grievous family affliction, just at the moment when his name was offered to the convention as its next presiding officer.

The president at once courteously introduced Dr. Reed, and the latter accepted the office in a few eloquent words that well bespoke the character of the man who had but just received at the hands of his colleagues the highest indication of the esteem and regard of a great profession.

That one extreme follows another was exemplified again in the selection of the next place of meeting—St. Paul, June 4-7, 1901. The remoteness from the center of the city chosen will perhaps prevent a great attendance, but it will be a good meeting, and warm hearts will greet the visitors.

As many of the members were returning home they were arrested on their way through Philadelphia by invitations to partake of hospitalities, both public and private, that further exemplified the proverbial courtesy that reigns in the city of brotherly love. The Medical Club, on Saturday evening, June 9, tendered a reception to Drs. Abraham Jacobi, of New York; Alonzo Garcelon, of Maine; Frank Billings and George H. Simmons, of Illinois; and J. W. Bodine, of Kentucky. The Bellevue, where the reception was held, was crowded to overflowing, and, between the supper, the speeches, and the geniality of the hosts, good fellowship was at large until midnight.—*Buffalo Medical Journal*, July.

Several Reasons for Attending the Meetings of the American Medical Association.—If we were asked what one thing most impresses the man who attends an annual meeting of the American Medical Association we should say a sense of littleness. Littleness in the thought that in the crowd of representative men from all parts of the country his identity is lost. He may be the most prominent physician in his community but there he finds those who never heard of him and care less for him. Instead he sees men whose reputation is not confined to one locality, and whose opinions are welcomed by even those who have no personal acquaintance. He is as effectually lost as if a stranger in a strange city. Littleness in point of knowledge—for every day and everywhere he runs across men discussing topics of which he is ignorant, displaying a knowledge which he has never had, and while if opportunity were given he might show as great superiority on some topic, as a rule the occasion does not arise, and he feels as if he does not have a fair chance to display himself.

To a thoughtful man this can have but one effect: he returns to his daily routine of work imbued with a determination to make an advance in his own personal requirements before another year, to study and understand the subjects in which he feels he is not well versed and, if for no other reason than this incentive to renewed effort, a visit to the National Association is well worth any man's while. But there are other things which make attendance valuable.

The vacation, the relief from business care and the change of scene afford needed rest, the pleasant acquaintances and the social functions give enjoyment, while the trip itself to an unfamiliar locality broadens a man and increases his sense of satisfaction that he lives in the United States.

The bad politics which for years has marred these meetings is now absent and the mutual admiration society from a certain section of the country is no longer in evidence. The general sessions are dignified, and personal ambition and petty spite have no longer the floor, and a good thing it is, too.

In many matters there is room for improvement; there are too many papers, the time for discussion is too limited, too many men desire recognition, too few do original work of merit, too many talk as if addressing a body of students, too many like to refer to "my assistant," too many talk and say nothing, the social functions are either too numerous or conflict with the scientific, there are too many side shows, but when all these objections are weighed and placed against the good features there is but one verdict.—*The Providence Medical Journal*, July.

American Medical Association.—The last meeting of this growing Association has just been held under more favorable weather conditions than are ordinarily to be expected at this time of year. The gathering was an enthusiastic one, as attested by the fact that upward of 2000 members were present. Corresponding with this attendance was a program which has rarely been equaled in the number and variety of communications presented. Of quantity, therefore, there was certainly no lack, but we are inclined to feel that in these days of excessive literary zeal in medical writing a certain censorship, tending to an improvement of the quality and the arrangement of the subject-matter, would not be amiss. Sporadic papers on such occasions are of comparatively small value, and serve rather as a personal advertisement than as a substantial addition to medical progress. It is to be hoped that this representative Association will make a virtue of necessity and bring its programs in the future within reasonable limits. Science would not suffer, and the responsibilities placed upon the broad shoulders of the medical editor would be visibly lightened. We are, therefore, quite in accord with our contemporary, the *Philadelphia Medical Journal*, when it comments editorially on the recent meeting: "There was the same plethora of papers offered, again proving how necessary it is that the officers of sections should weed and choose and limit according to their judgment and conscience, and regardless of personal influences."—*Boston Medical and Surgical Journal*, June 14, 1900.

Deaths and Obituaries.

THOMAS STORY KIRKBRIDE, JR., M.D., Philadelphia, died July 20, aged 31 years, of typhoid fever. He was a son of Dr. Thomas S. Kirkbride, the eminent alienist and superintendent of the Pennsylvania Hospital for the Insane. He received the degree of A.B. from Haverford in the year 1890, and was graduated from the medical department of the University of Pennsylvania in 1893. He subsequently spent several months in post-graduate work at the Johns Hopkins, and then entered upon his duties at the Pennsylvania Hospital as resident physician. After leaving the Hospital he went abroad for nearly three years, pursuing the study of pathology in Göttingen, Vienna, and other places. About two years ago he was elected director of the laboratories of the Philadelphia Polyclinic. He was assistant physician to the University Hospital, and assistant pathologist to the Philadelphia Hospital, and member of the College of Physicians of Philadelphia, the Philadelphia County Medical Society, and the Pathologic and Neurological societies.

DIVIE BETHUNE MCCARTEE, M.D., for more than fifty years engaged in missionary and educational work in China and Japan, died in San Francisco, Cal., July 17. He was born in Philadelphia, in 1820, and, having secured his medical degree from the University of Pennsylvania, went to China, and in 1844 opened a mission at Ningpo. He received honorary recognition from both of these Oriental countries. In failing health for some time, he was compelled to stop off at San Francisco on his journey to New York from Japan.

S. R. WELLES, M.D., Waterloo, N. Y., died July 14, aged 75 years. He was graduated from the medical department of the Buffalo University in 1848, the following year he attended Jefferson Medical College, Philadelphia, and in 1850 located in Waterloo. During the Civil War he was surgeon of the Sixty-first Regiment of New York Volunteers. He was one of the charter trustees of Willard State Hospital, and secretary of the board for fifteen years. He had served two terms in the State legislature.

JOSEPH E. BURKE, M.D., Galveston, Texas, died July 9, aged 42 years. He was a graduate of the medical department of Tulane University, New Orleans, receiving his degree in 1882. He had won a national reputation as a yellow fever and smallpox expert, having volunteered his services during the epidemic in Brownsville and Galveston.

DAVID P. WOLHAUPTER, M.D., Washington, D. C., died July 12, aged 60 years. He received his degree in medicine from the medical department of Bowdoin College (Maine) in 1862. He enlisted in the Civil War and was assigned to the hospitals near Washington. Since the close of the war, he had remained there in the practice of his profession.

JOHN LEONARD MULFINGER, M.D., died on July 21, at his residence, 926 Jackson Boulevard, Chicago, after a long illness. He was born in Chicago in 1854, and spent his entire life in that city. He was graduated from Rush Medical College in 1880, and had an extensive practice on the West Side.

J. L. COMBS, M.D., Grass Valley, Cal., died July 4, of pneumonia, aged 61 years. He was a graduate of the Washington University School of Medicine in Baltimore, Md. He located in Oregon, and lived there until 1866, when he moved to California.

ROLAND HAMMOND, M.D., a graduate of the Harvard University Medical School, 1872, died at his home in Campello, Mass., July 8, aged 58 years. He was a member of the Massachusetts State Medical Society, and vice-president of the Plymouth District Medical Society.

DAVID G. BOWMAN, M.D., died in Denton, Md., July 10, aged 63 years. He was a native of Philadelphia, and a graduate of the medical department of the state university there. During the Civil War he was connected with the Fifth Pennsylvania Cavalry.

F. A. BLACKMER, M.D., Albert Lea, Minn., died July 11, in Minneapolis, after undergoing an operation. He was born in Ohio, in 1847, and received his education at Oberlin College and the University of Worcester, Cleveland.

A. L. PATTEN, M.D., Mineola, Texas, died July 11. He was graduated from the medical department of the University of Georgia, in 1851, and afterward had practiced in Texas. During the Civil War, he was surgeon of the Twenty-second Texas Infantry.

ROBERT J. HILL, M.D., who for thirty years had practiced medicine in St. Louis, Mo., died there July 15, aged 64 years. He was assistant-surgeon of the Forty-fifth Ohio Regiment during the Civil War.

MARION E. GILLEN, M.D., Mount Morris, N. Y., died in Belleville, Canada, July 12, aged 45 years. She was a graduate of the Faculty of Medicine of Queen's University, Kingston, Ontario.

JOHN J. MCACHRAN, M.D., Salt Lake City, Utah, died July 12, aged 44 years. He was a graduate of the medical department of the University of Louisville (Ky.), in the class of 1881.

BENJ. W. BARTLETT, M.D., Rowley, Mass., died July 6, aged 50 years. He was graduated from the Bowdoin (Maine) Medical School in 1873.

JAMES S. GILLESPIE, M.D., Philadelphia, died July 20, aged 37 years, of appendicitis. He was graduated from the Jefferson Medical College, and afterward served as a resident physician to the hospital connected with it.

J. B. NEWBAKER, M.D., a graduate of Jefferson Medical College, 1852, died at his home in Trevorton, Pa., July 11.

DEATHS ABROAD.

We note the deaths of:

DR. EDWIN VON MILLENGEN, the ophthalmologist, at Constantinople.

DR. KARL LANGE, professor of pathological anatomy at the University of Copenhagen, and editor of the *Hospitals Tidende*, a weekly medical journal.

ARNOLD SCHETELIG, M.D., who died recently in Nervi, Italy, was born in Germany, in 1835. He studied medicine at Göttingen and Kiel, taking his degree from the latter in 1856. He practiced seven years in Hongkong, and then located at Hamburg, Germany. At the outbreak of the Franco-German War, the Senate of that city put him at the head of the Red Cross ambulance work. For his excellent service in this capacity he was rewarded with the Iron Cross. He never recovered from the fatigue experienced during the seige of Metz, and after traveling in Spain and Italy, he settled at Nervi, where he did much for the city in its development as a health resort. He was an anthropologist and archeologist of some note.

Miscellany.

Improved **Technique for Rubber Gloves.**—If thin rubber gloves are sterilized by dry heat—which can be done several times without injury—and dusted inside with the talcum powder used in new kid gloves and shoes, they slip on with ease and keep their shape, according to a communication from Wormser in the *Semaine Méd.* of June 20.

An Honor Long Deferred.—A monument has been erected to the memory of Dr. Jean Hameau (1779-1851), an obscure physician of the Gironde, who in 1836, at much personal loss, published a study on viruses, in which he partly anticipated the discoveries of Pasteur. The statue was unveiled recently at La Teste de Buch, where Hameau practiced. Addresses were delivered by Dr. Laude, mayor of Bordeaux, Professor Lannelongue, of Bordeaux, and others.

Medical Attendance on Police in France.—Dr. Laloy mentions in *Janus* as a "pearl in the history of the exploitation of the profession," the recent decree of the French war department that physicians, apothecaries and veterinarians who give their services gratuitously to the "gendarmerie brigades" will receive an official letter of thanks from the government after ten years, a bronze medal after fifteen years, one of silver in twenty years, and of enamel in twenty-five years, with the "academic palms."

Fixation Abscesses.—E. Bauer has been experimenting with abscesses induced with chemicals, usually turpentine, on man and animals, and states that they were always sterile and consequently have no effect on the elimination of microbes as intended when first suggested. But, he adds, in his communication to *Virchow's Archiv*, clvi, 3, that they induced protracted leucocytosis, and that this alone may be sufficient to favorably influence certain morbid processes, such as pneumonia, threatening chronic suppuration or pyemic or bacteriemic lesions.

Railroad Hygiene.—The exhibit of the Trans-Siberian railroad at Paris is attracting much attention, as comfort and hygiene have both been studied in the trains. The walls are smooth wood or tiles; the seats are covered with real or artificial leather; there are shower baths; appliances for cooling the air; gymnastic apparatus; cigar lighters; boiled water in the coolers, and a sanitary official on each train who is a trained nurse and barber. The draperies are reduced to the minimum and an automatic perfume spray is set in action as the door of the water closet is closed.

Smallpox in Nome City.—A dispatch from Seattle, Wash., bearing date July 19, states that the *Athenian* and *Sequola* are at anchor. The latter vessel left Nome City on July 3. The pesthouse at Nome is reported overflowing with smallpox cases. Government officials were erecting two other large structures. The disease has spread rapidly, and many cases are quarantined in the tents in which they were discovered. Every government and city official, and every doctor was working night and day endeavoring to check the disease. Dr. J. J. Tyler, of Chicago, who returned on the *Sequola*, said there were at least 200 cases, and that nearly twenty new cases were being reported daily.

A Checkered Career.—Dr. Heneage Gibbes, according to the *Saturday Evening Post*, Philadelphia, June 30, enjoys the distinction of being the only Chinese mandarin to hold an American office. He is English by birth, ran away from home at fourteen and went to sea. He was shipwrecked on the coast of China, and fell in with pirates, who turned him loose without clothes. After reaching a Chinese town he fell in with an Englishman who equipped him for a mission to a rebel army, from which he drifted into the Chinese service. In command of a gunboat, with a mixed crew, he patroled the coast, capturing outlaws, pirates and smugglers. On one occasion he seized a cargo of contraband opium and made for the sea. For this he was summoned into the presence of royalty and made a mandarin. His career since then has been a return to England for the study of medicine, a commission to India for a cholera investigation and a resignation to take the chair of pathology in the Michigan University. Dr. Gibbes is also to be remembered as the Health Officer of Detroit.

Enforced Abstention in Diabetes Insipidus.—About a year and a half ago Dr. A. Strubell published an account in the *Archiv f. Klin. Méd.*, lxii, of an attempt to deprive a patient with the insatiable thirst of diabetes insipidus of some of the water he craved. On three occasions he was left from five and one-half to ten hours during the night without the possibility of getting water, after having ingested two to five liters. The report says that the patient drank his urine to quench his thirst during these intervals and an impression of sensational clinical tortures was produced on the public, which the lay press has taken up to such an extent that Stintzing, the chief of the service at Jena, in which the inci-

dent occurred, has recently published an "explanation" in an local paper. In this he says that, while taking the responsibility of the treatment as a whole, he yet expresses his regret that certain details were carried out in a manner of which he only learned afterward. The *Deutsche Med. Woch.* observes that the deplorable incidents could easily have been prevented by a little more care and attention. Strubell established in these tests that a sweat-bath diminishes the thirst, and he also obtained data for further research by his examination of the blood during the forced abstention.

Societies.

DEWITT COUNTY MEDICAL SOCIETY.—This Society met in Clinton, Ill., July 12. The following officers were elected: president, A. E. Campbell, Clinton; vice-president, C. C. McMackin, Weldon; secretary, J. C. Meyer, Clinton.

STEPHENSON COUNTY MEDICAL SOCIETY.—This Society met in Freeport, Ill., July 12, and officers were elected for the ensuing year as follows: president, C. R. Sheetz, Freeport; vice-president, S. C. Thompson, Cedarville; secretary and treasurer, J. F. Fair, Freeport.

IOWA UNION MEDICAL SOCIETY.—The semiannual meeting of this Society was held in Cedar Rapids, July 10. The election of officers resulted as follows: president, T. J. Shuell, Parnell; first vice-president, H. S. Raymer, Cedar Rapids; second vice-president, J. W. Kirkland, Wyoming; secretary, J. DeWitt Graham, Springville; treasurer, Geo. P. Carpenter, Cedar Rapids.

WABASHA COUNTY MEDICAL SOCIETY.—At the thirty-second annual meeting of this Society, held in Lake City, Minn., July 12, the following officers were elected for the ensuing year: president, J. A. Slocumb, Plainview; vice-president, P. N. Kelly, Wabasha; secretary and treasurer, W. F. Wilson, Lake City. The meeting will be held in Wabasha, the second Thursday in July, 1901.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The next meeting of this Association, at Indianapolis, will be held October 23-26. The meeting of the Section of Bacteriology and Chemistry will be held, Monday, October 22, in the Pathological Laboratory of the Central Insane Hospital at Indianapolis, and that of the regular Association will open Tuesday, October 23, in the amphitheater of the German House.

UPPER PENINSULA MEDICAL SOCIETY.—The fifth annual meeting of this Society was held at Mackinac Island, Mich., July 10. The election of officers resulted as follows: president, A. Felch, Ishpeming; vice-presidents, W. R. Hicks, of Menominee, F. E. Fletcher, of Lake Linden and J. H. Bogan, of Mackinac Island; secretary and treasurer, C. E. Cruse. A memorial tablet in honor of Dr. William Beaumont was unveiled. The next meeting will be held in Menominee.

IOWA AND ILLINOIS DISTRICT MEDICAL ASSOCIATION.—This association met in Moline, Ill., July 13. The following officers were elected: president, Henry Matthey, Davenport, Iowa; vice-president, C. M. Sala, Rock Island, Ill.; secretary, G. E. Decker, Davenport; treasurer, Emily Wright, Rock Island.

MICHIGAN STATE MEDICAL SOCIETY.—The thirty-fifth annual meeting of this Society was held at Mackinac Island, July 11 and 12. The following officers were elected: president, P. D. Patterson, Charlotte; first vice-president, D. B. Harison, Sault Ste. Marie; secretary, D. B. Biddle, Detroit; treasurer, Charles E. Hooker, Grand Rapids. The meeting next year will be held at Battle Creek. A more detailed report will be published later.

Chicago Society of Internal Medicine.

June 18, 1900.

PROPHYLAXIS AND MANAGEMENT OF INTERSTITIAL NEPHRITIS.

DR. CHARLES W. PURDY, Chicago, read a paper on the above subject. See page 216, in this issue.

DR. I. N. DANFORTH—I do not think very much can be added to the admirable paper persented by Dr. Purdy, because it seems to cover the ground very thoroughly. We all know that interstitial nephritis is an affection very difficult to manage. I desire to say a few words concerning diagnosis, and then pass on to the consideration of my own treatment for this disease. My observations have been that not more than about one-third of the cases that come to me with a diagnosis of interstitial nephritis are really that disease. I should say that about one-third are simply cases of catarrhal nephritis. I had such a case to-day from Indiana. The patient was a boy, 18 years of age, whose disease had been diagnosed some months ago as interstitial nephritis, or contracting kidney. He had none of the symptoms or characteristics of this disease. He had never been exposed to any of the causes of interstitial nephritis, as far as could be learned. There was no heredity that led to it. It is true, there was a trace of albumin in the urine; the urea was up to 1.75 per cent. The urine was cloudy, and contained a little mucus. The heart was normal. There was now and then a hyaline cast, and there were quite a number of what we have stupidly called "cylindroids," that is, mucous casts. I see many such cases of so-called contracted kidney, not quite as marked as this, however, and I have for a long time wrote and taught that we ought to recognize as a distinct lesion, catarrhal nephritis. If we can make an accurate diagnosis in the catarrhal form of the disease, it is curable. There is about another third of the cases which are not interstitial at all, but which occur in advanced cardiac disease, where the cardiac affection is the initial trouble. Under these circumstances the kidneys become enlarged, congested, somewhat indurated, but not contracted. It is a type of kidney disease that Formad described first as the "pig-back kidney." The kidneys become enlarged and rounded; the capsules are distended and stretched. If you cut them a little the kidney begins to bulge out. The kidney tissue will be grayish in appearance, perhaps mottled, but not indurated. These are often mistaken for cases of interstitial nephritis, but they are what we now know as "cyanotic induration."

I desire to pass on now to a consideration of the alterative treatment, which I have long used, and, I believe, with some success, for true interstitial nephritis. I believe in the use of alterative remedies in small amounts for periods extending over weeks, months, or even years. For example, I have a case to-day, a man, 50 years of age, in whom a diagnosis of interstitial nephritis was, I think, correctly made. This patient has been under my care for seven or eight years; he is no worse to-day than he was when I first saw him, and I think he is somewhat better. He has a slight trace of albumin in the urine; there are always present a few hyaline casts, and there is more or less cardiac tension. There is a thickened left ventricle, but it has not enlarged for the past five years, so far as I can determine. He has taken almost continuously for the last three years either bichlorid of mercury, or the iodid of mercury in some form. He is taking now the fortieth of a grain of bichlorid of mercury, three times a day. Probably nine out of ten will laugh at that treatment, and those who speak after me will be very likely to ridicule it. Yet I have seen many patients improve on this treatment, and have seen the disease apparently arrested in its progress under it. In connection with this treatment attention must be directed to the diet, to sanitary measures, etc. Stimulants must be cut off, and meat and tobacco to a great extent. I agree with what Dr. Purdy has said regarding milk, and I do not think we can starve a man to death any quicker than we can by giving him a milk diet exclusively. I use the iodids, the biniodid, or the green iodid of mercury in these cases. Sometimes one seems to agree with the patient much better than another. Of the green iodid I would not give more than gr. 1/10 to gr. 1/20, but I would keep up the treatment uninterruptedly for weeks and months. Of the red iodid I would not give more than gr. 1/60, three times a day; but I insist that its effects are only realized by giving it for weeks or months together, the patient being kept under observation. During this treatment the patient must be taught as to diet, and symptoms must be met as they arise. This long-continued alterative treatment is absolute and certain in its effects. The iodid of potassium is almost as efficient, although given in small doses, not more than a grain four times a day, which is hardly enough to be worth giving, and yet it is this continuous effect which produces the favorable results. Of late years we have been dropping the old idea of the use of alterative remedies in an altera-

tive manner, as we were taught many years ago, giving small doses of remedies which are in themselves potent, but which are continued over long periods of time, so that the patient is continuously under their influence, but their efficiency when given properly and continuously can not be doubted by any one who has thoroughly tried them.

DR. ARTHUR R. ELLIOTT—The statistics published by Dr. West, in the Lettsomian lectures of 1898, came to me in the nature of a surprise. I have not looked up the statistics to refresh my memory, but if I remember rightly, the observations he conducted, which were very striking in manner, consisted of post-mortem examinations of all cases dying in St. Bartholomew's Hospital from whatever cause, and showed that thirty-eight and a fraction per cent. of all such cases presented pathologic evidences of contracted kidney. Mahomet's earlier observations corroborated these findings in a striking manner. According to these and other observations, chronic interstitial nephritis was shown to be the most frequent of all degenerative lesions. Dr. Danforth has told us that not more than one-third of his cases diagnosed as chronic interstitial nephritis were characteristically this disease. That may be true, but I venture to say that one-third of the cases of interstitial nephritis, perhaps the majority of them, run their course to a fatal termination and die without the kidney lesion having been diagnosed or suspected during life. The disease masquerades in death reports as "heart failure," "apoplexy," "dropsy," etc., the latter a designation which has, however, fallen into desuetude. The true secret of successful prophylaxis of this disease is an early diagnosis, for when the patient is seen in the early stages of the disease, his case is extremely amenable to treatment. After the disease has progressed or advanced to that period when there are marked cardio-vascular changes, cardiac dilation, failing heart, etc., comparatively little can be done, so that the earlier a patient with this disease comes under our observation, the more amenable is he to treatment, and the more satisfactory are the results. Early diagnosis of the disease will depend upon a more widespread, careful examination of the urine, and the realization and significance of the cardio-vascular changes, since they are the most marked of the symptoms in this form of renal lesions. A more careful examination of the urine, and a clearer understanding of the significance of the cardio-vascular changes, attracting attention to the heart and arteries, would result in the discovery of a greater number of these cases. The sphygmograph is not by any means as often resorted to as it should be. The pulse of these patients in the earlier stages of the lesion is of great value in diagnosis and extremely significant. The appreciation of tension by the finger in the early stages is not by any means as striking as by the use of the sphygmograph. The treatment of interstitial nephritis is one which is almost entirely hygienic in the early stages. The less drugs the better. The regulation of the diet, as Dr. Purdy has pointed out, is in the direction of excluding nitrogenous foods. The majority of these cases have decided polyuria, although some are marked by the absence of it. The effects of the free use of drinking water are lauded in articles which have been published from time to time in medical journals, and it is customary with some practitioners to invariably direct these patients to partake freely of pure drinking water. This recommendation is one which may be too rashly interpreted by the patient, and it has been my experience to have these patients partake so freely of water as to increase the flow of urine immensely. The effect on the kidney of this excessive secretion of urine is deleterious. I have seen a number of cases in which hematuria has resulted probably from renal congestion, and also increase in the albuminuria, these urinary evidences of irritation passing away with restriction in the amount of fluid. Dr. Purdy touched upon the character of heredity in many of these cases. The hereditary character of interstitial nephritis is pretty generally recognized, but I have not seen pointed out very many times the peculiar course which the hereditary cases pursue. It has been my experience to have treated not a few cases where distinct hereditary influence was present. Perhaps it is not possible to trace in the family history a direct story of a preceding nephritis or kidney disease in the immediate ancestors, but we have as significant the history of relatives in the immediate line dying of apoplexy and of heart failure, which, in all probability, are just as likely as not to have been cases of interstitial nephritis with dilated, failing heart. With such heredity, one is justified at least in inferring the cases to have been instances of interstitial nephritis. These cases are not characterized by any peculiar symptomatic feature; they present the same picture as do others. The manner in which they differ from cases of the non-hereditary type is the way they react to treatment. The results are much less satisfactory in these than in the cases of the non-hereditary type. The disease pursues a more uniform and progressive course toward a fatal termination.

DR. ROBERT H. BABCOCK—In your note to me, Mr. President, you kindly asked me to consider the subject of nephritis in its relation to cardiac disease. I assume by that you mean not the cases of interstitial nephritis or renal changes which are encountered in connection with cardiac symptoms, and which really antedate the cardiac manifestations, but those conditions of the kidney which are associated with heart disease as the effect of the cardiac lesion. These are a congestion of the kidney which constitutes the large, red kidney, and later, after years of congestion, more or less development of interstitial connective tissue, or induration, a condition known as cyanotic induration of the kidney. I do not expect to say anything new or novel on this subject. The cases which I see, as a rule, simply present changes of the urine indicative of passive renal congestion. The cases I have under observation rarely live so long a time that the changes in the kidney have gone on to contraction of the organ, therefore, as this evening's discussion is confined to interstitial nephritis, my remarks will not be apropos. I have had a great many urine analyses made, and I am astonished to find in my chronic cardiac cases, commonly valvular diseases of course, how seldom a report comes to me, from the Columbus Laboratory, of albumin in the urine. Of course, albumin in this class of cases is due to nutritive disturbances in the glomerular epithelium, and it seems rather strange that I do not more frequently find albumin in the urine of these patients. I do occasionally encounter a case in which there is albuminuria, as typified by the following case: I have under observation a young woman with mitral regurgitation with adherent pericardium, and compensation has been partially destroyed. It has only been with the utmost care that during the past three years the condition has been held pretty much in *statu quo*. Examination of the urine has not revealed anything special other than the change of congestion. But last April, after having been very well during the winter, she began to lose flesh and to complain of pain of a neuralgic character in various parts of the body, and although there was nothing in the heart findings to explain the loss of strength, she steadily went down. Soon after this an examination of the urine showed a total volume of 660 c.c., specific gravity of 1028, urea of 3 per cent., albumin, 2.75 per cent., granular and hyaline casts. At this time she was weak and felt very miserable. The heart's action was rapid, and the usual treatment did not in any wise control its action. I immediately forbade animal food, ordered a restricted diet, including some milk, and made her drink large amounts of water. The urine changed, and examination a week later showed that she was now passing 1500 c.c. of urine in twenty-four hours, with a specific gravity of 1013; 1.3 per cent. urea, with no albumin, no casts. This was evidently not a case of interstitial nephritis, and albumin did not appear on account of congestion. There was acute nephritis, but to what it was due I do not know. Had it been a renal congestion merely, it seems to me the increased intake of water would not have remedied it. Her other treatment remained the same. Analysis of the urine since has shown practically the same findings as were noted in the second analysis. I would call your attention to the readiness with which cardiac patients who have a passive hyperemia of the kidney may contract an acute inflammation of these organs. I do not refer here to embolic infarcts. Of course we must recognize their occurrence in the kidneys as part of the changes which occur in the course of heart disease. But a chronic cardiac patient, just as a chronic nephritic patient, is for some reason specially liable to infection. He becomes infected from one cause or another without our being able to say why, and under this condition of infection the kidneys become readily inflamed in consequence of

the elimination of the toxins, or of the micro-organisms of the infection. I think that in the management of chronic cardiac cases physicians should examine the urine more frequently than they do with a view to detecting evidences of acute nephritis, when, in fact, there have been no marked constitutional symptoms to lead the physician to suspect infection. Regarding the management of congested kidneys of heart disease, physicians are apt to err in the way of urging patients to drink too freely of water. If patients drink too much water in the hope that it will act as a diuretic, they only increase the congestion of the kidneys, and will really aggravate rather than ameliorate their condition. The urine is scanty, and there is frequently, notwithstanding its high specific gravity, an actual diminution in the total amount of solids eliminated. As pointed out by Oertel, in the management of cases of cardiac disease we may get better results in the way of elimination from the kidneys by a restricted ingestion of water, or in allowing just the amount of fluid which will produce the greatest amount of urine. When contraction of the kidneys occurs as a result of chronic heart disease the prognosis is most unfavorable, both because the cardiac lesion is unfavorably affected by the increased blood-pressure secondary to the renal change, and because there is not cardiac power sufficient to maintain adequate pressure in the renal arteries.

DR. JAMES B. HERRICK—I want to take exception to some of the statements made by Drs. Danforth and Elliott, as too broad. The statement made by Dr. Danforth is to the effect that two-thirds of the patients that come to him with a diagnosis of chronic interstitial nephritis have something else. Possibly that is true with regard to the patients that come to him, but I believe the diagnosis of chronic interstitial nephritis as made by the majority of physicians is correct. Dr. Elliott made a statement, using the same figures, that two-thirds of the cases of chronic interstitial nephritis are entirely overlooked or pass for something else. I do not believe that this is true as regards the majority of physicians. Both these statements I would criticise as too sweeping. I would also take exception to one thing Dr. Purdy has said. I fully indorse what he has said regarding the importance of treating the heart in cases of chronic interstitial nephritis; there can be no question of its immense value. But if I understood him rightly, he made the statement that a very large number, even the majority, of the cases of chronic interstitial nephritis die, in reality, of heart disease. There can be no doubt that a great many patients do die with all the evidences of cardiac failure —dilatation of the heart, murmurs, insufficiency, cardiac dropsy, etc. But when we think of the great number of patients with chronic interstitial nephritis who die of uremia; when we think of the great number of patients with chronic interstitial nephritis who die from some intercurrent or complicating disease, we must admit that a great many, I should say the majority, do not die of cardiac insufficiency; and particularly would this be true if we are allowed to include those cases that die of cerebral hemorrhage, though the relation of the heart to cerebral hemorrhage may be very intimate.

I would fully indorse everything that has been said relative to the importance of heredity, enabling us to institute early prophylactic treatment. There are family cases on record where not only from one generation to another, but in one and the same generation, many members of the same family have chronic interstitial nephritis, and sometimes at a very early age, even in childhood.

Dr. Danforth said he believed he would be criticised for what he said regarding alteratives, and particularly regarding the value of these remedies. I do not recall who it was who told me of the great value of the alteratives in chronic nephritis. But I have given, I believe, with benefit, the alteratives in these cases, and oftenest in the form of Donovan's solution of arsenic or minute doses of calomel. One other point I would like to refer to; this pertains to prognosis. I have never seen a case of chronic interstitial nephritis, in which there was albuminuric retinitis, that has lived for more than a few months. I do not remember to have seen a case live longer than twenty to twenty-four months. Possibly there is nothing in this point, yet, after hearing that statement made I have watched my cases since, and whenever in chronic interstitial nephritis albuminuric retinitis was present, death has occurred inside of two years.

It may not be out of place to say a word regarding the treatment of uremia, which occurs so frequently in the course of chronic interstitial nephritis. I wish to speak of the great value of normal salt solution where the secretion of the kidneys is locked up. In many cases of chronic interstitial nephritis we find relative anuria; the albumin is increased in amount, as well as casts, and the patient has uremia in one or the other of its manifestations. The results following the subcutaneous injection of large quantities, say a pint to a quart and a half, of normal salt solution, once, twice, or thrice in twenty-four hours have at times seemed remarkable. The kidneys and skin act much more freely after this, and best of all, the patients in many instances make a beautiful recovery. I would also call attention to the value of the normal salt solution just preceding the sweats so commonly given in cases of uremia. When we sweat a patient we abstract a certain amount of water from the blood, and but a relatively small amount of toxic material, the blood being surcharged with this toxic material is rendered more concentrated by the abstraction of water. By first injecting normal salt solution under the skin, and then sweating the patient, we not only obtain much better diaphoresis, but we lessen the danger that comes from the concentration of the blood. Cases have been reported in which, following a sweat, uremic manifestations were worse, and in which it seems the blood, from too great concentration, became much more toxic. It is certainly prudent to consider this point, and even though we do not go to the extent of giving normal salt solution under the skin, we can give large amounts of water by the stomach.

DR. N. S. DAVIS, JR.—One point, it seems to me, has not been sufficiently emphasized, and it is of considerable importance from the standpoint of prophylaxis. Unquestionably, the main thing in the prophylactic treatment of these cases is to teach patients to be abstemious as regards eating and drinking. This is a difficult thing to do, because these patients naturally are hearty eaters, and have been such for long periods of time, and usually they have been addicted to taking small quantities of water and considerable quantities of those fluids which are more or less irritating to the stomach, to the liver, and sometimes to the kidneys. When such habits have existed for a long time, it is difficult to change them, and more especially in those patients for whom prophylactic treatment is of most value, patients in whom the disease is starting. They do not appreciate their own condition, consequently it is difficult to drive home the necessity of their being abstemious as regards eating, and the need of drinking copiously of good, pure water. However, that is not the point to which I wish particularly to refer. I wish to emphasize the necessity of keeping the intestinal tract as reasonably clean as possible. In these cases we have almost invariably preceding the renal trouble, or at least coincident with it, enlargement of the stomach, more or less gastritis, more or less fermentation of an abnormal character in the intestinal tract, and it is chiefly because of the products of fermentation in the gastro-intestinal tract that renal lesions develop. Renal irritants are produced there, the lesion is not due to a surplus of nitrogenous foods only or chiefly. The kidneys, like most other organs, are capable of doing a much larger amount of work than required under strictly physiologic conditions. They can eliminate much more nitrogenous matter, without harm to themselves, than is required for the maintenance of strength and health. They are able to do the work thrown upon them, providing the nitrogenous matter comes to them in a normal condition. To prevent the constant recurrence of that irritation of the kidneys which produces necrosis and interstitial changes, it is necessary to prevent the formation of those materials in the stomach and intestines, which result from abnormal fermentation in nitrogenous food. Not only must the diet be made abstemious in order to lessen the nitrogenous elimination, but in order to lessen gastrointestinal fermentation, which is especially apt to be excessive when the organs are overworked. For this reason also laxatives must be given freely and constantly to obtain copious movement of the bowel.

A word or two in regard to the administration of milk. Most individuals can not take milk continuously for a long period. It is not to be expected, therefore, in cases of inter-

stitial nephritis, that a strictly milk diet can be adhered to even if it was needed. But experience has shown that it is not especially indicated in these cases. It can, however, be used as an element of diet in some cases. I believe it is one of the simplest forms of nitrogenous food which we can use, and one which is least likely to undergo deleterious fermentation in the stomach and intestines, and it meets many of the dietetic indications of this disease. But milk must form only one element of diet. It has often been said that a strictly milk diet is a starvation diet. That is true for most individuals. I have seen persons, and I presume most of you have, who have adhered to a strict milk diet for a long period of time, and who upon it gained flesh and strength. They used large quantities of it. They were the unusual patients, who took milk with pleasure. But these individuals are rarely met. Therefore the general statement is perfectly correct that a milk diet is a starvation diet for the majority of patients, but it can advantageously constitute one element of diet for many of these patients.

DR. ALBERT H. BURR—I was asked to speak upon the treatment of interstitial nephritis from a hydriatic standpoint. I seem to have acquired, unjustly, I think, some reputation as a medical baptist with an idea that salvation from disease can only come through tubbing. Water is an extremely flexible remedy and will often better than any other remedial measure fulfill the indications for stimulation, for elimination, and for counteracting toxic effects in renal diseases. There are a variety of ways of using water therapeutically in the treatment of conditions arising from interstitial nephritis. First, from a prophylactic standpoint, if the patient has been recognized as liable to fall into a condition of ill-health through a diathesis or tendency to nephritis, much can be done for him by hydriatic methods in warding off the condition, not ignoring, of course, other necessary dietetic and hygienic measures.

There is one element that has not been dwelt upon to-night, either in the excellent paper of Dr. Purdy, or in the discussions; I refer to the toxic element. In interstitial nephritis there has been an irritation due, I believe, to something more than the elimination of large quantities of normal wastes. The wastes from nitrogenous products are normally passed through the kidneys. That is their function. The kidneys may carry on the work of elimination to two or three times the normal amount of nitrogenous wastes without harm, as the stomach is able to bear the digestive work of overfeeding for years without serious impairment. It is astonishing to note how much abuse the stomach will tolerate and still maintain a good functional activity throughout life. To the same extent the kidneys are able to perform their function, although overworked. But there is another element—that of toxicity, autoinfections, and irritants from germ-life, and faulty metabolism—that is not due to the overwork of eliminating nitrogenous wastes. Here Dr. Danforth's idea of elimination by means of alteratives is appropriate. If the physician appreciates the tendency in the direction of interstitial nephritis he may contribute very materially toward his success in keeping the patient in a fair degree of health by suitable hydriatic measures. In these cases nothing is better as a tonic, as an alterative, or as a stimulant to the cardiac and renal functions than the morning cold plunge bath, with friction. Such a bath patients are able to take themselves. They stimulate the normal physiologic processs, and assist in carrying out efficient elimination. Let us now take a well-marked condition of interstitial nephritis, in which there will develop cardiac lesions sooner or later. There may be at times over-excitement of the heart action and over-pressure of circulation, and in this condition we often have polyuria, then the sedative effects of water are indicated, such as the application of hot or cold packs. The patient will get these sedative effects with either hot or cold, provided the application is continuous for 30 to 60 minutes. Sedation follows the continuous application of hot or cold waters and they are not antagonistic by any means. Again we may have a condition in which there is a call for stimulation. Any condition of interstitial nephritis combined with cardiac lesions, which to your mind calls for the use of digitalis, strophanthus, spartein, or any of the cardiac stimulants, can be met promptly and efficiently by the brief cold sheet rub. In dilatation of the heart, when it is not compensating fairly well, and when as a part of the condition the urine is scanty, it is efficient also. One of the quickest means of securing a diuretic effect is that mentioned by Dr. Herrick —hypodermoclysis—the injection of normal salt solution. There is a better and painless method for obtaining prompt diuretic action—enteroclysis. The colon is flushed with a hot injection of two or three quarts of water, beginning with a temperature of 110 and raising it to 120 F. The long colonic flushing-tube is employed, the colon is filled and the water allowed to pass out again through the tube. After this colonic flushing with hot water, half a pint of normal salt solution is left in the rectum. This amount of solution will be retained, and in twenty minutes' time its action is marked both on the kidneys and on the heart. Dr. Baker has reported some experiments that he has conducted upon himself in this line, and he says there is nothing more efficient as a diuretic than these hot flushings, followed by a retention injection of half a pint of normal salt solution. It strikes me that the introduction into the rectum, after colonic flushings of hot water, of one or two drams of the citrate of potassium left in this water would be very beneficial. The physiologic action of the water, briefly applied, is stimulating. You know how closely the transverse colon and its flexures approach the kidneys; hence a direct stimulating effect of the hot water upon the kidney itself is obtained, also a reflex, stimulating effect on the heart. Take the cases of marked uremia, in which we have headache, cramps in the muscles, skin irritations, and possibly a tendency to drowsiness, coma, or convulsive symptoms, nothing can relieve that condition so quickly as the hot bath or pack for the purpose of diaphoresis. I hardly see the force of the remarks of Dr. Herrick regarding condensation of the blood and the leaving of toxic principles in the blood by diaphoresis. Have you ever observed that, by these hot baths, in a condition of uremia, the skin, supplementing the action of the kidneys, is capable of eliminating an immense amount of toxic material, and that the sheet will reek with the emanations of the patient after a forty or sixty minutes' pack? This should always be followed by the brief reaction sponge of cold water. Hydriatic methods applied in accordance with varying indications do not preclude by any means therapeutic application of drugs, but they must be considered valuable aids, and in many cases are far more efficient and valuable than any possible drug treatment.

DR. M. L. GOODKIND—There are some points in connection with the prophylaxis of nephritis that have not been mentioned either in the paper or in the discussion. Dr. Davis, in his remarks, referred to a toxic element in that class of cases hereditarily predisposed to nephritis, and I think that very frequently these patients are infected through the tonsils In the class of cases predisposed to nephritis, the use of cold baths, as suggested by Dr. Burr, should be avoided. I have seen several cases in which nephritis was brought about by the constant use of cold sponge baths. Dr. Purdy mentioned the exclusion of a strict milk diet, in the terminal stage of nephritis, where the cardio-vascular disturbances are marked, on the ground that a greater strain is thrown on the kidneys. Von Noorden showed me a dozen cases in his clinic in which he practiced the same procedure as that suggested by Dr. Purdy, on the assumption that a fluid diet overstrains the heart, and for that reason he treats the broken-down heart by curtailing the amount of fluid and paying less attention to the kidneys in such cases. Another thing that Dr. Von Noorden mentioned at the time was, that there is a common misapprehension by the profession at large that red meat, or butcher's meat, contains more proteids and extractives that are injurious to the kidneys than white meats. The contrary obtains, he claims to have demonstrated, as the result of a series of experiments. In reference to the use of alteratives, I agree with Dr. Danforth, particularly in that class of cases in which there is by heredity a uric-acid tendency, and in which arteriosclerosis is present; also in the cases mentioned by Dr. Davis in which intestinal toxemia prevails. Several assistants of Kahler, working in his laboratory some ten years ago, demonstrated post-mortem the presence of nephritis in cases in which it was not suspected during life. There had been no marked cardio-vascular changes at any time. There

had not been the slightest trace of albumin, nor casts. Also a number of cases in which hyaline and granular casts, and a greater or less amount of albumin had been demonstrated *in vivo*, the patients dying of some adventitious trouble, showed not the slightest evidence of nephritis, so that the presence of a few granular or hyaline casts in the urine is not always pathognomonic of nephritis. Concerning albuminuric retinitis, and Dr. Herrick's prognosis of from twenty to twenty-four months as the extreme limit of life, I will say that there are certain cases in which we have the albuminuric retinitis of pregnancy and of scarlet fever, and yet these patients live for a great many years. These two classes of cases, therefore, offer a notable exception to the position taken by Dr. Herrick in regard to prognosis. I would like to ask Dr. Purdy whether he has had much experience in the use of morphin in edema of the lung, occurring in connection with nephritis, and whether he has found it to be a serviceable drug? Also, whether he has used the lactate of strontium in interstitial nephritis? Personally, I have used it without obtaining good results.

DR. FRANK S. CHURCHILL—There is one aspect of the subject under discussion that has not been touched upon, and which, it seems to me, is of great importance. It should receive more attention than it has in the past. I believe we shall have to look for the solution of the cause of interstitial nephritis in the adult to an exhaustive study of the conditions existing in infancy and childhood which lead to the condition in which interstitial nephritis develops. Of course, that is a tremendous problem, and means an exhaustive examination of a large number of infants, beginning with the first day of life, and following them all through life up to the point in which they do or do not develop this disease. The magnitude of the problem is very great. Careful and repeated examinations of the urine from the time of birth up to the time nephritis has developed should be made. We ought to examine the twenty-four-hour amount of urine with a view to detecting the presence or absence of albumin, casts, sugar, and estimate also the solids of the urine. I have only reached the point of examining the urine of a number of children in a condition of health, and those observations I have already published.[1] These observations were made on the solids, the chlorids, phosphates and sulphates by the method suggested by Dr. Purdy, and also the amount of urea and the total amount of water. One of the most significant points brought out in these investigations was the small amount of water passed by these children. They were mostly of foreign parentage, but living in an asylum under American conditions of life. I could not find that these children had a smaller amount of fluid than children encountered in private practice. They passed a smaller amount of urine than is indicated by the results published by European and English observers among children, and following the subject up I was interested to see that the same results obtained among adults. The adults in America pass a smaller amount of urine than do the cases recorded by foreign observers.

Dr. Elliott alluded to the hereditary cases of interstitial nephritis, saying that these are apt to run a much more severe course than those in which there is no such heredity. I would like to throw out the suggestion, that in these cases this hereditary tendency possibly gains headway during the periods of infancy and childhood; and that exhaustive examinations of the urine of such children may show a condition of things which would perhaps put us on our guard and enable us to prevent or put off to a much later period the development of interstitial nephritis. But my chief object in speaking is to make a plea for a more extended and more exhaustive examination of the urine in children.

DR. EDWARD F. WELLS—I wish to call attention to two points of practical importance in this discussion. First in the management of edema of the lungs, life will often be saved by making the mouth and nostrils the lowest point of an inclined plane. This will allow the fluids to flow out of the bronchii, preventing the drowning of the patient in his own bronchial secretions. This should be employed in addition to medicinal treatment. Second, in cases of uremia, while introducing fluids into the system, and withdrawing fluids from the surface, from the kidneys and from the bowels, the blood may be actually washed and purified, in properly selected cases, by bleeding. This procedure, indicated in some cases, is also a life-saving measure.

DR. PURDY (closing the discussion)—In replying to some of the points that have been raised in the discussion, I shall not attempt to answer them in the order in which they were given. I will first answer Dr. Herrick in reference to deaths due to affections of the heart in cases of interstitial nephritis. The statement I intended to make was that the majority of cases said to die from interstitial nephritis really die from some cardiac disease. A word of explanation is due here. I believe the statement to be correct. If we have no heart complication in cases of interstitial nephritis, they would go on and live longer than they do after the cardiac disease sets in. Although perhaps the disease is primarily in the kidney, death from uremia is more often secondarily than primarily due to the kidneys being worn out. When the cardiac complication becomes advanced it cuts off the renal function, the blood-pressure is lowered, and the urine in volume and quality is lowered; excretion is impeded, and the patient falls gradually into uremia or some complication of uremia, not directly from renal but from cardiac breakdown. If the heart-lesion had been recognized early and proper attention given to it, the patient's life would have been vastly prolonged. I have half a dozen cases on hand now in which the volume of urine is somewhat above normal, perhaps sixty ounces in twenty-four hours, with a specific gravity of 1005, 1006, or 1007, the total urea not exceeding 150 grains. I had two sisters in my office less than three weeks ago who are getting along with perfect comfort, apparently, on as near a non-nitrogenous diet as they can be put upon. When I saw these patients two years ago they were drenching themselves with enormous quantities of fluid, drinking gallons of water daily. Neither of them has any material cardiac complication. Cases of ordinary interstitial nephritis will run along almost indefinitely until cardiac complications set in and make substantial progress, then the patient will die without exception—not from renal, but from cardiac failure.

With reference to alteratives, I have not had very much experience in the use of mercury. To be frank, I am prejudiced against it. I have great faith in the iodids, and have used them a great deal. I believe, however, that their true action is as vasodilators. Perhaps I can best illustrate this by citing the case of a man of whom I have had some knowledge for over twenty years. For fifteen years he was in the hands of a well-known physician of this city, who gives alteratives freely. He kept this man on iodids most of the time for fifteen years, but did not modify his diet. What is the consequence? His kidneys are practically rudiments to-day. During the past two and a half years, while he has been under my care, I have never known him to exceed a hundred and eightly grains of urea a day. I believe the iodids saved his heart and prolonged his life.

I agree with Drs. Elliott and Danforth that much harm is done by giving an excessive amount of fluid. There may be cases requiring flushing of the kidneys for a time. I believe it is a good point to allow a patient three or four pints of fluid, say three pints each day; but sending patients to mineral springs is not good for the patients.

In regard to the diagnosis of interstitial nephritis, I was much interested in the remarks of Dr. Danforth. We all know that Dr. Danforth has made a careful study of casts. I believe there is much in what he has said; at the same time, a case of chronic interstitial nephritis sometimes becomes subacute; it has periods of acute tendencies. A man with interstitial nephritis may get some septic complication, some fever, causing slight diffuse nephritis, or, as Dr. Danforth expresses it, a catarrhal nephritis.

With reference to the visual disorders of nephritis, it must be remembered that we have a number of forms of amblyopia in nephritis. We have acute uremic amaurosis, which may come on in an hour, and disappear practically in six hours, due to uremia. The retinal-lesions are chiefly due to albuminuric retinitis, and to the hemorrhages into the retina. True,

1 Trans. Am. Ped. Soc., Vol. X, 1898.

albuminuric retinitis is one of the late lesions of the disease, and the statement that patients do not live as a rule more than two years may be correct. But there are certainly exceptions to that rule. I have seen patients live over four years. I recall a case in Burlington, Iowa, under the charge of a local oculist there, which is now doing fairly well in his sixth year. But that is very unusual.

The remarks of Dr. Davis as to the difficulties of carrying out prophylaxis are very pertinent to this discussion. It seems almost impossible to modify the habits of a man of fifty or sixty years of age, who has always been robust and strong. In short, the habits of a lifetime are almost unchangeable in such patients. When you consider that you have to pit your advice of half an hour against the habits of a lifetime, it is an exceedingly difficult thing to have a patient follow your suggestions as to diet and mode of life.

I quite agree with what has been said concerning laxative treatment, and, in fact, what little I suggested in the way of medication was coupled with advice in reference to diet, and the use of a saline laxative every alternate day. By the way, there is another point about the excessive use of water that I desire to mention. Where we have a hypertrophied heart, the heart taking up more space than it should in the thorax, the constant overfilling of the stomach with fluids is one of the worst things that can be done. It encumbers the heart's action greatly.

With regard to the remarks of Dr. Burr in reference to cold baths, I must say that I do not believe in them. A very important part of my treatment of interstitial nephritis is the care of the skin. I have seen many cases go along and do fairly well until they met with a chilling of the skin, which has precipitated a uremia and caused death. I have seen this take place so frequently that I have become afraid of cold baths and cold water. If we wish elimination by the skin, I do not think the hot pack, or hot water, is the best method of getting it. It stands to reason that evaporation from the skin is vastly more rapid in a dry than in a moist atmosphere. If you want to get diaphoresis in an active form, you can get it best by a dry hot-air bath. One of the first things I insist upon is that patients shall wear all wool next to the skin in this climate. The skin contains a large amount of blood; chilling the vessels will cause them to contract, driving the blood into the internal organs—the weakest organs get most of the extra flow of blood.

As to the use of opium in edema of the lungs, I think a single hypodermic injection of morphia with atropin will sometimes cut short an edema of the lungs. It is a dangerous drug to give in interstitial nephritis, unless it is restricted to a single dose, and time allowed for its elimination. The elimination of opiates is slow. If you give a patient a full dose of morphin or opium, who has interstitial nephritis in pronounced form, you will find that he will be under the influence of the drug much longer than a person whose kidneys are sound. If we use a diuretic, my preference is the citrate of potash, which, in cases of nephritis, is the only remedy that lowers the albumin in the urine. It does so invariably.

California Academy of Medicine.

San Francisco, June, 1900.

Dr D. W. Montgomery in the chair.

FRACTURED PATELLA.

DR. DUDLEY TAIT presented a patient 54 years of age, who, three years previously, was treated for a fractured patella. Treatment for 2½ months with splint and cast had left him with a painful, swollen and almost useless knee. Two years later he had opened the joint and found two small, porous, widely-separated fragments. Perfect approximation was impossible, even in extreme extension and after lateral incision of the quadriceps tendon and patellar ligament. The remnants of the patella were removed entirely shortly afterward, and the patient is now able to work, does not limp, and walks without the aid of a cane. He said that many have an exaggerated idea of the importance of the patella, which is merely a sesamoid bone. In the transverse fracture of the patella, without involvement of the peripatellar soft tissues, there will not be more than from 4 to 6 mm. of separation of the fragments. If, on the contrary, the lateral aponeurotic expansions are torn, there may occur a marked separation, especially in case of pressure from behind—hemarthrosis. Keen's suggestion of disinserting the patellar ligament would not have been of any service in the case presented.

DR. G. E. CAGLIERI presented a young man whose patella had been fractured by falling, sustaining a transverse fracture. The morning following the accident he operated, making a horse-shoe incision. The joint was found filled with blood-clots, which were all removed by thorough flushing. The two fragments were surrounded by a silk ligature, passing it through the patellar tendon below and the quadriceps extensor tendon above. The result was excellent, the patient walking after four weeks. He said that the subcutaneous methods in fractures of the patella were not to be relied upon, and laid particular stress on the necessity of getting out all blood-clots and fragments of bone from the joint cavity.

DR. TAIT said that where there is distinct separation of the fragments and soft tissues intervening, the open treatment is always indicated. He advocates early intervention, as the resistance of the tissues is diminished by delay.

DR. HENRY KUGELER said that Dr. MacEwen wires or sews in all his cases, the main thing being to bring the fibrous tissue together. Most operators use catgut or silk in doing this, wire being not as frequently used. He said that he agreed with Dr. Tait regarding the necessity for immediate union, and that the point Dr. MacEwen makes in advocating the operative treatment in all cases is that fibrous threads fall in between the fragments almost invariably. Dr. Huntington said that prompt action in these cases is certainly the accredited one, as blood-clot forms a good culture-medium. In a recent case of his, in which high temperature and other septic symptoms developed, he aspirated the joint and found it was a streptococcic infection. The patient died, but had the joint been opened and cleaned out earlier, the result might have been different. Regarding the wiring of the fragments, he said that hard and fast rules can not be laid down, as opinion among authorities is very much divided. When the bones can be properly approximated the joint should not be opened. Scudder, of Boston, in a recent article, stated that simple fracture of the patella by the open method was justifiable, but he showed that after a given number of months, the results as far as function was concerned, were about the same as when treated without opening the joint. If that is correct, it certainly is no strong argument for dealing with an ordinary fractured patella by the open method. The procedure may be safe in hospitals; there can not be absolute immunity from sepsis when a joint is opened.

DR. G. E. CAGLIERI said that under proper aseptic precautions in hospitals there was no great danger in properly opening any joint, and that he would no more hesitate to do so than to open the abdominal cavity.

DR. H. M. SHERMAN said that the proposition of opening any joint was not analogous to opening the abdomen. Ideas are somewhat perverted by speaking of the synovial membrane. The wall of a joint cavity is composed of connective tissue, and there is no tissue in the joint hostile to infection like the peritoneum is. The joint is simply a space in connective tissue, and has not the same power to throw off infection, therefore we have to hesitate more in opening any joint than in opening the abdomen. In all joints, there is every tendency for infection to spread, no tendency for the focus to be walled off as in the peritoneum. The collateral features have to decide whether to open or not. When there are blood-clots in the cavity we can not very well get rid of them by means of the trocar. He had tried to devise a way of holding the fragments together, with only fair success, but good success as far as the result was concerned. His plan was to place a plaster-of-paris band around the joint, and then hold the fragments together with the fingers, by making firm pressure into the plaster until it thoroughly set.

DR. GEO. F. SHIELS said that the conservative opinion of never opening anything that can remain closed was the proper one. The method he liked best was that of passing a ligature through the quadriceps extensor tendon above, and the ligamentum patellæ below, and holding the fragments there in that position.

DR. DUDLEY TAIT said that he did not think Dr. Caglieri's case was presented with the intention of advocating the open method in treating all cases of fractured patella, as such a practice would prove dangerous, if not criminal, outside of a well-appointed hospital. In cases, however, in which there is great distention of the joint and extensive laceration of the peripatellar tissue, nothing will give such an ideal, sure, and rapid result as the method of encircling the fragments. This procedure is extremely easy and rapid, and should replace the old method of wiring in very many instances. It matters little what kind of union takes place. Good fibrous is as serviceable as bony union. Hence the result of treatment can not be accurately estimated by the X-rays alone.

THYROID SURGERY.

DR. H. M. SHERMAN exhibited a thyroid gland which he had removed because of cysts. It had increased in size to the point of causing dyspnea and some tachycardia. There was considerable disfigurement, and it was for cosmetic purposes that he removed it. The removal was easily accomplished and he had no trouble with the recurrent laryngeal nerve. He left some portion of the right lobe to prevent the occurrence of myxedema. His principal object in reporting the case was to speak of a new drainage material that he had used, linen mesh, the material used in the manufacture of the linen mesh underwear, which has certain qualities which render it superior to gauze as a drain. The operation had been done after Treves, making a vertical incision in the median line with a transverse incision joining this at right angles dividing the muscular structures covering the gland, and making accurate end-to-end approximation of the same by suturing, after enucleation.

DR. T. W. HUNTINGTON said that he had not found it necessary to divide the muscular structures. He uses the Kocher horse-shoe incision, which follows the crease in the neck, instead of the straight incision of Treves, and believes that it is the incision that will be followed in the future by most surgeons, by reason of the slight scar that results.

DR. HENRY A. KUGELER said that he saw Kocher operate a number of times at his clinic, and that he uses local anesthesia by Schleich's method of cocain infiltration. Regarding drainage in these cases he stated that McBurney uses strips of sterile rubber tissue, that acts well and is an excellent method, while some operators use wool thread wound up in wick.

MALIGNANT GROWTHS.

DR. DUDLEY TAIT showed a patient 55 years of age, who entered the French Hospital 14½ months ago with a malignant growth involving the pyloric region, the entire smaller curvature, and a portion of the greater curvature of the stomach. He had vomited all food for weeks previously and had lost 30 pounds. His condition was extremely cachectic, hemoglobin was 38 per cent. Gastroenterostomy was done with great difficulty, on account of the numerous adhesions, especially posteriorly. The patient soon gained 25 pounds and returned to work, but, for the past three weeks, he had presented symptoms of obstruction of the anastomotic opening. Palpation shows an adherent epigastric tumor and a series of nodules corresponding to several of the through-and-through stitch-holes. He proposed duodenostomy, and asked for suggestions from members of the Academy. He also exhibited a specimen showing extensive involvement of the genito-urinary tract. During life the patient had complained solely of a swollen epididymis, and had requested an operation, which was refused.

FORCEPS.

DR. T. W. HUNTINGTON presented, before the Academy, the O'Hara intestinal anastomosis forceps and described their method of application.

DR. HAROLD BRUNN showed the LaPlace forceps and the Downes modification of the same.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, July 14.

1 *Primary Carcinoma of the Fallopian Tubes. Elizabeth Mercelis.
2 *Syphilis of the Brain. (To be continued.) J. T. Eskridge.
3 Atrophy of Ciliary Muscle. Norburne B. Jenkins.
4 Present State of Galvano-Caustic Operation of Bottini for Ischuria. (To be concluded.) Granville MacGowan.
5 *"Floaters" in the Urine. William F. Bernart.
6 Two Unique Rectal Cases. Samuel G. Gant.
7 *Elements of a Good Climate. Paul Paquin.
8 Proper Care of the Infant's Nursing-Bottle; An Apparatus for the Perfect Sterilization of the Same, Combined with a Pasteurizer and Sterilizer for Milk. Theron W. Kilmer.

Philadelphia Medical Journal, July 14.

9 *Total Excision of the Scapula alone, and with the Arm (Intrascapulo-thoracic Amputation): Partial Excision of the Scapula for Tumor. (Concluded.) J. J. Buchanan.
10 Case of Primary Adenocarcinoma of the Gall-Bladder with Secondaries in both Adrenals, Melanosis of Skin (Addison's Disease?), Vitiligo, and Hypertrophy of the Pancreas. (Continued.) Alfred S. Warthin.
11 *Action of Rennin Upon Milk-Digestion. (Concluded.) I. H. Coriat.
12 Case of Myoma of the Bladder. (Concluded.) Otto G. Ramsay.
13 Dislocation of the Jaw in Epilepsy. Charles J. Aldrich.

Medical Record (N. Y.), July 14.

14 *Some Clinical Observations on Lupus Erythematosus; The Pathology of Lupus Erythematosus. J. A. Fordyce and O. H. Holder.
15 *Endocardial Murmurs of Organic Origin, Localized in the Pulmonary Area of the Heart. John W. Brannan.
16 Convulsions. Clarence King.

Boston Medical and Surgical Journal, July 12.

17 *Review of Recent Studies on the Nature and Origin of Cancer. J. Collins Warren.
18 Case of Mural Endocarditis. Harold Williams.
19 Cysts in Abdominal Wall Structurally Identical with Ovarian Cysts. John Homans.
20 Case of Cesarean Section. Thomas Kittredge.

Cincinnati Lancet-Clinic, July 14.

21 *Diagnosis of the Attitude of Fetus in Utero by External Examination. E. Gustav Zinke.
22 Physical Culture. H. V. Sweringen.
23 Tubercle. H. H. Spiers.

Medical News (N. Y.), July 14.

24 *Tendon Transplantation in the Treatment of Deformities of the Hand. Wisner R. Townsend.
25 *Some Remarks on the Artificial Feeding of Infants and the Regulation of the Milk-Supply in the Country. J. Finley Bell.
26 *Subphrenic Abscess Following Appendicitis; Two Cases. J. F. Baldwin.
27 *Petroleum in the Treatment of Phthisis. Wm. Duffield Robinson.

St. Louis Medical Review, July 14.

28 Intra-Ocular Tumors. C. Barck.

Pediatrics (N. Y.), July 1.

29 *Infantile Amaurotic Family Idiocy—Report of a Case and Its Autopsy. J. Herbert Claiborne, Jr.
30 A New Back Brace for Pott's Disease. John Dane.

Medical Fortnightly (St. Louis, Mo.), June 25.

31 Significance of Fever in the Diagnosis of Disease of Infancy and Childhood. John Zahorsky.
32 Peripheral Facial Palsy with "Crossed" Hemi-Paresis. F. Savary Pearce.
33 *Serum Treatment of Tuberculosis. G. R. Spicer.

Alienist and Neurologist (St. Louis, Mo.), July.

34 *Degeneracy Stigmata as a Basis of Morbid Suspicion. (Continued.) Jas. G. Kiernan.
35 Nature and Evolution of Folie du Doute. C. H. Hughes.
36 *Inebriate Criminals and Their Treatment. T. D. Crothers.
37 *Inter-Relation of Gynecology and Neurology in Practice. C. H. Hughes.
38 *Plea for Extension of Psychiatry in the American Army. C. H. Hughes.

Iowa Medical Journal, June.

39 Gastro-Intestinal Autointoxication. Walter L. Bierring.

Illinois Medical Journal, July.

40 *Jeremiah xxxi-15. A. C. Cotton.
41 *Management of Impacted Cases. Henry F. Lewis.
42 *Mutilating Operations in Obstetrics. C. S. Bacon.

Archives of Ophthalmology (New Rochelle, N. Y.), May.

43 *The Order of Development of Color Perception and of Color Preference in the Child. Ward A. Holden and K. K. Bosse.
44 On Tuberculosis of the Eye. Ernst Lubowski.
45 Case of Bilateral So-Called Coloboma of the Macula Lutea. Dr. Kimpel.
46 Retrobulbar Neuritis, with Permanent Central Scotoma, Following the Treatment of Extensive Burns with Iodoform. L. D. Brose.
47 Hemiopia Following Poisoning by Illuminating Gas, with Report of a Case. Harry Friedenwald.
48 *Occurrence of Retraction Movements of the Eyeball Together with Congenital Defects in the External Ocular Muscles. Julius Wolff.
49 Report of Case of Retraction of Eyeball. A. N. Alling.
50 Retraction Movements in a Case of Congenital Contraction of the Internal and Paralysis of the External Rectus of the Left Eye. Herman Knapp.
51 Case of Glaucomatous Attack Following Instillation of Euphthalmin. Herman Knapp.

Pennsylvania Medical Journal, June.

52 William Harvey. John M. Swan.
53 Plea for Thorough Urine Analysis. J. Sparks Parker.
54 Valvular Diseases of Left Heart. Anson T. Clark.
55 Some Common Rectal Diseases and Their Treatment. John A. Hawkins.
56 Proprietary Remedies. T. H. Stevens.
57 Who Shall Operate? J. W. Van Horn.
58 Treatment of Phimosis by Dilation. F. Le Moyne.

Annals of Gynecology and Pediatry (Boston, Mass.), July.

59 *Relative Value of Vaginal and Abdominal Operations in Extirpation of the Pelvic Organs. I. Gustave Richelot.
60 Tumors Complicating Pregnancy with Reports of Cases. Geo. W. Jarman.
61 *Diagnosis of the Attitude of Fetus in Utero by External Examination. E. Gustav Zinke.
62 Hydatids and Hydatidiform Cysts. J. M. Fassig.

Brooklyn Medical Journal, July.

63 Recurrent Oculo-Motor Paralysis. L. A. W. Alleman.
64 Reports of Cases of Appendicitis. Arthur H. Bogart.
65 Symposium on Adenoids. Jonathan Wright, H. Arrowsmith, W. C. Braislin, and Thomas R. French.

Bulletin of the Cleveland General Hospital, January.

66 Cirsoid Aneurysm of the Lower Extremity Complicated by Lymphangioma and Giant Growth. Nicholas Senn.
67 *Conditions Requiring Enucleation of the Eyeball. Edward S. Lauder.
68 Case of Erysipelas and Carcinoma. C. B. Parker.
69 Report of Three Cases of Extra-Uterine Pregnancy, One of Cesarean Section and One of Concealed Accidental Hemorrhage. E. E. Skeel.
70 Case of Tetanus Cured by Antitetanus Serum. Joseph F. Hobson.
71 Obstruction of the Bowels from Fecal Impaction. Norman C. Yarian.

Colorado Medical Journal, June.

72 *Diseases of the Bladder and Their Diagnosis. Wm. P. Munn.
73 Consecutive Edema of Larynx. John R. Espey.
74 Urinary Casts. Edward C. Hill.
75 Injuries to the Eye from Accidents in the Mine. (Continued.) Melville Black.

Physician and Surgeon (Ann Arbor, Mich.), June.

76 *Erysipelas and Its Treatment. Albert E. Carrier.
77 *What Has Modern Science Accomplished to Prevent Consumption. Ziba H. Evans.
78 Dermoid Tumors in Gynecology. Frank D. Summers.
79 *A Critical Contribution to the Doctrine of the Motion of Lymph. Norbert Herz.
80 Postpartum Hemorrhage. E. T. Abrams.

Louisville Monthly Journal of Medicine and Surgery, July.

81 Acute Orchitis. Val. Buechel.
82 Scarlet Fever. W. E. Shepherd.
83 Report of Surgery. (Continued.) H. Horace Grant.
84 Address before Kentucky State Medical Society. William Bailey.
85 Nephritis Conventionally Considered. U. V. Williams.
86 Renal Insufficiency. John G. Cecil.
87 Nephritis: Its Frequency and the Importance of Its Early Diagnosis. J. A. Humphrey.
88 Cancer of the Uterus. Louis Frank.

Chicago Clinic, June.

89 Cholelithiasis. J. H. Salisbury.
90 *Ozena, Dry Pharyngitis and Pachydermia of the Larynx in the Light of Recent Researches as to Their Etiology. J. Holinger.
91 Reflex Neuroses from Adherent Prepuce in the Female. A. S. Waiss.
92 *Indications for the radical cure of Hernia in Children. J. N. Bartholomew.
93 Study and Dissection of the Pelvic Outlet. (To be continued.) W. T. Eckley.
94 Intubation and Tracheotomy. (To be continued.) Aime P. Heineck.

St. Louis Medical and Surgical Journal, July.

95 Aneurysm—A Report of Several Cases. Louis H. Behrens.
96 Two Cases of Chancre of Groin. A. H. Ohman-Dumesnil.

New Yorker Medicinische Monatschrift, June.

97 *Klinische Experimente mit Nirvanin. F. C. Flœckinger.
98 Bedutung Eines Verbandes deutscher medicinischer Vereine in den Vereinigten Staaten. E. Rosenberg.

Maryland Medical Journal, July.

99 A Winter in Baden-Baden. Edward M. Schaeffer.
100 *Indications for the Employment of Cesarean Section, Symphyseotomy, and Craniotomy in Contracted Pelvis. J. Whitridge Williams.

Doctors' Magazine (Chicago), June.

101 Concerning Milk. I. N. Danforth.
102 Medical Women. Agnes Turner.
103 Mortality in Early Life. A. C. Cotton.
104 Notes From My Journal. Wm. Rittenhouse.
105 Professional Amenities. G. Frank Lydston.

Buffalo Medical Journal, July.

106 *Gynecological Mistakes and Their Pathologic Bearing and Importance. H. E. Hayd.
107 Notes on the Advancement of Ocular Muscles. Benjamin H. Grove.
108 *Some Thoughts Suggested by the Local or Medicinal Treatment of Cataract. B. H. Grove.
109 Metrorrhagia and the Menopause. William W. Potter.
110 Taking Inventory of a Nervous Case; and the Effects of Season Upon the Production of Nervous Diseases. Wm. C. Krauss.

Canadian Journal of Medicine and Surgery (Toronto), July.

111 *Surgery Among the Insane: Its Difficulties, Its Advantages, Its Results. A. T. Hobbs.
112 Pre-Columbian Leprosy—A Critical Essay. (To be continued.) Robert Lehmann-Nitsche.
113 Abdominal Pregnancy—Report of a Case. H. Meek.
114 Recent Neurological Research. Ezra H. Stafford.

Memphis Medical Monthly, July.

115 Why Are We Sick? Wm. M. Mason.
116 Recent Epidemic of Smallpox. Wm. Krauss.
117 Alcohol in the Practice of Medicine. I. A. McSwain.
118 Hereditary Transmissions. J. D. Hopper.
119 Disorders of Nervous System Due to Malarial Infection. B. F. Turner.
120 Preparation of Patient and Bed for Labor. Jno. A. Blackman.
121 The Forceps. J. R. Coleman.
122 Delivery of the Child. C. H. Johnston.
123 Delivery of Placenta. J. C. Stinson.
124 Postpartum Hemorrhage. Jno. R. Fowlkes.
125 The Puerperal Woman. I. A. McSwain.
126 Placenta Previa. Robert W. Tate.
127 Adenoids. J. T. Herron.
128 Report of Case of Spina Bifida, with Treatment. J. R. Coleman.
129 Two Cases of Malarial Hematuria, with Treatment. A. E. Cox.
130 Fracture of Lower Jaw. J. T. Barbee.

St. Paul Medical Journal, July.

131 *Losdörfer's Bodies: A New Discovery in Syphilitic Blood. Victor Neudorfer.
132 Malpractice Suits: How Best to Protect Ourselves Against Them. Donald B. Pritchard.
133 Plea for Higher Standing in American Medical Colleges. Parks Ritchie.
134 State Work With Infectious Diseases of Animals. M. H. Reynolds.
135 Pemphigus Vulgaris, with Report of a Fatal Case. Burnside Foster.
136 Myasthenia Gastrica. J. A. Vieregge.
137 Case of Malignant Stricture of the Esophagus. Charles R. Ball.
138 Report of a Case of Lobulated Lipoma of the Hand. W. S. Fullerton.

International Journal of Surgery (N. Y.), July.

139 Renal Calculi. W. B. Reid.
140 *Suprapubic Cystotomy. T. W. Nuzum.
141 Treatment of Fractures. (Continued.) W. L. Estes.
142 Regional Minor Surgery. (Continued.) George G. Van Schaick.
143 Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
144 Surgical Treatment of Chronic Suppurative Otitis Media. Robert E. Moss.
145 Carcinoma of Tonsil. E. A. Montenyohl.
146 An Introductory to the Mechanical Diagnosis and Treatment of Urethral Diseases. (Continued.) Ferd C. Valentine.
147 Syphilitic Hygroma of Prepatellar Bursa; Carcinoma of Rectum; Gelatin Serum as a Hemostatic; Elevation of Temperature in Uncomplicated Fracture; Carcinoma of the Breast—A Clinical Conference to Practitioners. Charles G. Cumston.
148 Electrical Burns. F. A. Palmer.
149 Apparatus for the Treatment of Fractures of Femur in Small Children. D. A. Stanton.

Southern California Practitioner, June.

150 *Treatment of Uterine Fibroids. E. R. Smith.
151 *Comparison Between Pan- and Supra-Vaginal Hysterectomy. R. V. Rendon.
152 Legal Medicine. E. O. Sawyer.
153 Combined Anesthesia by Bromid of Ethyl and Chloroform or Ether. F. D. Bullard.
154 *Treatment of Compound Fractures. Joseph Nutt.

Southern Medical Journal (La Grange, N. C.), June.

155 Diabetes Mellitus: Its Treatment. J. W. P. Smithwick.
156 Treatment of Headaches—With Clinical Reports. Robert C. Kenner.
157 Does Sepsis Play a Prominent Causative Rôle in the Production of Puerperal Insanity? Edward N. Brush.
158 Treatment of Anal Chancroids. Martin A. H. Thelberg.
159 Magnificent Destiny of America. Bruno Wilke.

American Journal of Surgery and Gynecology (St. Louis, Mo.), June.

160 Progress of Gynecology. H. C. Crowell.
161 Cure of Old Sinuses. Herman E. Pearse.
162 *Shall the Specialist Pay a Commission to the General Practitioner? Emory Lanphear.
163 Division of the Fee as it Appears to a Southern Country Doctor. W. Shropshire.
164 Why Should not the Doctor Employ and Pay the Specialist? R. M. Stone.
165 Uterine Carcinoma. Milo B. Ward.
166 Case of Gangrene of the Tonsil. Alexander C. Howe.
167 *Use and Abuse of the Vaginal Douche. I. S. Stone.
168 Treatment of Metritis. A. Calleux.

New England Medical Monthly (Danbury, Conn.), July.

169 Preliminary Address Delivered Before the Senior Class of the College of Physicians and Surgeons. Augustus P. Clarke.
170 Convalescence After La Grippe. F. E. Hale.
171 Cerebral Phases of Lithemia and Their Treatment. John J. Berry.
172 Treatment of Secondary Anemia with Clinical Report. Eugene C. Underwood.
173 Movable Kidney. David C. Brown.

Medical Times (N. Y.), June.

174 Hemorrhoids: Horseshoe Fistula. Joseph M. Mathews.
175 *Some Observations on the Prognosis and Treatment in the So-Called Catarrhal Deafness. Dunbar Roy.
176 *Malignant Disease of the Stomach and Pylorus. Wm. J. Mayo.
177 *Notes on a Case of Rabies in New York City.

AMERICAN.

1. **Primary Carcinoma of the Fallopian Tubes.**—This paper is purely casuistic, adding one more case to the twenty or so already reported of primary carcinoma of the Fallopian tubes. Mercelis gives the determining points for the diagnosis of primary lesions and discusses the symptoms as they have been generally observed.

2. **Syphilis of the Brain.**—Eskridge first remarks on the occurrence of syphilis of the brain and its frequency, reporting the views of others in this regard without expressing a personal opinion. He says we can only say that the length of time after the initial lesions in which brain symptoms may develop is variable and indefinite, and we can not at any time state that there is no longer a danger of the brain becoming affected. He follows H. C. Wood in doubting whether any slight injury not causing inflammation can call out manifestations of brain syphilis in cases hitherto entirely free from intracranial infection. The direct effects of syphilis of the brain are few, the indirect effects are numerous. Only the specific lesions, those occurring directly from the disease, are amenable to specific treatment. The secondary effects are not specific in character and do not thus respond. Thus gumma, which is a characteristic typical lesion, carries with it numerous other disorders by compression and otherwise. Treatment, unless instituted early, is apt to be fruitless. He calls attention to the lesions that are produced by syphilis in the blood-vessels and other symptoms.

5. **"Floaters" in the Urine.**—From examinations and experiments with fifty samples of freshly voided gonorrheal infected urine Bernart concludes as follows:

1. The specific gravity of the urine is a prominent factor in the action of floaters.

2. The elements composing the floaters influence their action.

3. Their suspension at different depths in the urine is greatly due to some mechanical interference.

4. Upon filtration of the urine all but the very lightest floaters, those composed of flocculent mucus, will sink to the bottom of the beaker.

5. The action of floaters does not alone depend upon their composition or the specific gravity of the urine.

Since the difference in the length of the infection and its extent, and the influence of treatment, did not show a marked degree of difference in the results of the foregoing experiment, it is but fair to judge that some substance within the urine, which can be removed by filtration, influences the action of floaters and their diagnostic value.

7. **The Elements of Good Climate.**—The climate which Paquin thinks would be best adapted to the majority of respiratory troubles should be moderately high and dry and the air as pure as possible. It should be free from heavy winds, protracted rains and heavy fogs. It should have a soil favoring rapid drainage and evaporation; it should have a clear sky and sunlight for five-sixths or more of the time, and should neither be depressing when hot nor chilly when cold; and to afford the greatest measure of good it should have besides healthfulness, enjoyable scenery and surroundings and be unfavorable to homesickness. In any event the benefit depends on two factors: 1, rarefaction of the air; 2, dryness of the air. Mere altitude, however, combining these to a greater or less extent with each other, is not alone sufficient. The desiccating power of the air of high altitudes may itself have some disadvantages, and if as much good can be accomplished without the resort to a very high altitude it should be avoided. An important point is the blueness of the sky, which shows the pureness of the atmosphere. Moisture, which plays an important rôle, is to be considered. Heavy fogs are apt to be dangerous, but a light fog may be a cleansing agency and not be felt to have any disadvantages. Rainfalls are cleansing agencies, but if too persistent and heavy they may be damaging. The soil also must be considered. A mountain soil, not too porous, is the best. Sunshine and temperature are also to be considered, and the latter may be said to be from a climatic standpoint what it feels to one; that medium cold dry air and medium warm dry air are equally good, while the same degrees of temperature in a damp atmosphere are dangerous. He thinks the conditions which he has described are better met with for the year round in Western North Carolina than in any other part of the country. Not only the climate but the accommodations and food are elements in the success of the treatment and every case should be under the charge of a physician. This applies to the physician as well as the layman, since there is probably not a sufferer from tuberculosis whose judgment is trustworthy as regards his own case.

9. **Interscapulo-Thoracic and Scapular Amputation.**—Buchanan tabulates the cases known of total excision of the scapula at one operation for the preservation of the arm and also at two or more operations, and cases of excision of the scapula for tumor. He finds in summing up that interscapulo-thoracic amputation is primarily a very successful one, the mortality being only about 8 per cent.; 18.6 per cent. of cases whose post-operative history was definitely known were cured beyond the three-year limit. All cases operated on for enchondroma have remained free from recurrence, thus showing that these growths are comparatively benignant and do not warrant the conclusions drawn when they are included among the malignant neoplasms. Excision of the entire scapula for neoplasms has an immediate mortality of 17.3 per cent. and a record of 20 per cent. cured beyond the three-year limit in the malignant cases. Partial excision of the scapula for tumor, taking away less than the entire body, has an immediate mortality of 9 per cent. and a record of 33.3 per cent. of cures up to three years in the malignant cases. Partial excision of the scapula for tumor, taking away the entire body or more, has an immediate mortality of 26 per cent. and a record of 6.25 per cent. of cures. Notwithstanding these favorable results in total excision he does not hold it admissable to remove the entire bone, even in malignant cases, if less will possibly suffice. In conclusion he adds a note on the recent monograph of Picque and Dartigues and a paper by J. William White, who has reported cases, also some further data in regard to cases included in this paper.

11. **Rennin.**—The following are the conclusions of Coriat's article: *Action of Rennin in Digestion.* 1. The casein of milk can be digested by both pepsin and pancreatin, without being first coagulated by rennin. 2. When, however, rennin is present in order to precipitate the casein, the amount of digested proteid or albumose-peptone produced by the proteolytic enzymes above mentioned is greater in every case. 3. The presence of rennin is necessary to secure a more rapid and energetic casein digestion. 4. This increased peptone production, due to the presence of rennin, takes place in both acid (pepsin) and alkaline (pancreatic) media. *Action of Rennin on Coagulation.* 1. Combined HCl, when equal in bulk to one-tenth or less of the milk used, does not coagulate milk, even after prolonged action. 2. Combined HCl, when it exceeds one-tenth of the bulk of milk used, coagulates with rapidity, although not as rapidly as when HCl is free. 3. Free HCl, alone, coagulates milk. 4. Rennin coagulates milk without HCl being present, but when it is present in a combined form equal to one-tenth or less of the bulk of milk used, coagulation takes place in a much shorter period of time. 5. The presence of acid-albumin hastens coagulation by the enzymes. 6. Coagulation time decreases steadily, as greater amounts of absolute rennin are present. 7. Vegetable enzymes coagulate milk in a way which compares very favorably with rennin. 8. Coagulation with vegetable enzymes takes place under the same conditions of temperature, acidity and amount as rennin. 9. Enzymes exist in the plant kingdom, which have an action analogous to that of rennin.

14. **Lupus Erythematosus.**—In the first part of this article, the clinical portion, Fordyce discusses the relations of lupus erythematosus to tubercle, and seems to favor the theory that it is due to the toxins from Koch's bacilli. Three cases are reported which he thinks are suggestive in this direction. In the second portion of the article Holder discusses the pathology, giving illustrations of the microscopic findings. He thinks that if there is one thing absolutely known about the disease it is that the Koch bacillus is not present in this lesion; it is not true tuberculosis of the skin. No case has ever come under his own personal observation that shows the large percentage of tubercular antecedents given by the French observers. He concludes that everything seen in the microscope points to the fact that lupus erythematosus is a disease in which the blood-supply is interfered with. The normal capillary pressure is raised, but the cause is open to further investigation. Of the two phenomena that are characteristic of the early lesion he is inclined to place the infiltration secondary to a capillary

obstruction in the height of the erythema, but admits at the same time that it may be an effect and not a cause of connective-tissue change. He recommends to pathologists and dermatologists the use of Unna's acid orcein in lupus erythematosus.

15. **Heart Disease.**—Brannan reports a case of undoubted heart disease with obscure symptoms, which he discusses. The principal feature of the disease is, he thinks, the conduction of mitral regurgitation murmurs directly to the chest wall above the so-called pulmonary area. The diagnosis of mitral disease is reached by a sort of exclusion process in this case.

17. **Cancer.**—Warren's address covers the whole subject of the investigation of cancer, and he concludes that, so far as we have been able to ascertain by our studies, the question as to the parasitic origin must be considered as yet not proven. He thinks that it is only by long and patient research that we will be able to unlock the secret of this problem.

21.—See also No. 61.

24 **Tendon Transplantation.**—Townsend reviews the literature of tendon implantation in the case of deformities of the hand, and adds cases of his own to those which he has found to be published elsewhere. He thinks the reports of these cases show that we have at our command an operation which will do away with the necessity of the physician telling the patient that amputation is the best thing to do with a case of drop-wrist following cerebrospinal meningitis. It is important to thoroughly investigate the muscles of the hand before operation; and to get good results we must ascertain their electric reaction and their general functional capacity. It is advisable to suture tendons only that have power left, if we expect them to do active work in the future. A careful study of the muscles will tell us which one to transplant and how it can be best attached. He gives some details of the method of transplanting and discusses the probability as to the best results from operating on the tendons of the flexors and extensors respectively.

25. **Artificial Feeding of Infants.**—According to Bell, condensed milk is the most pernicious article in the feeding of infants and never a suitable substitute for mother's milk. He describes the methods of modification and finds that too great excess of proteids is especially damaging. The carbohydrates also differ. The different formulas and methods are discussed. One of the most serious problems is the difficulty of securing pure cow's milk for the modification. He suggests careful rules in regard to the care of the cows, looking after their health, frequent examinations of the milk, thorough washing of the udders, etc., and the milking being done in a room that is used for no other purpose and kept scrupulously clean. The great desideratum is a thoroughly competent and educated dairyman, as a high order of intelligence would be required to keep a model dairy.

26. **Subphrenic Abscess.**—Baldwin reports two cases of subphrenic abscess following appendicitis, and calls attention to the importance of the recognition of these cases. If it is not recognized and not treated surgically the mortality is very high.

27. **Petroleum in the Treatment of Phthisis.**—The petroleum products known as vaselin, terralin, etc., are suggested by Robinson as valuable agents in the treatment of phthisis. The material which he has used has been a perfectly refined product, and he gave it in 2-dram doses, four times a day for a period of from three to six months, in every instance with increase in weight, improvement in health, strength and feeling of well-being. The gain was from 5½ to 23½ pounds, and there was no other treatment which could be held responsible for it. The treatment gave no discomfort in any case, as the material is absolutely indigestible and unchangeable in the intestinal tract and passes through unaltered. Fermentive and putrescent changes were controlled and normal functions along the entire tract were re-established. The intestinal toxins were either not formed or were carried off by the petroleum. Indican and sulphates disappeared from the urine. The effect he considers entirely mechanical. Petroleum has also the property of being an ideal solvent for many remedies useful in the treatment of phthisis, such as creosote, the fixed oils and most volatile oils, alkaloids, and many chemicals. It is a solvent of iodin, sulphur, betanaphthol, naphtalin, menthol, etc., and by the addition of a little ether, chloroform, or oleic acid its power to dissolve is greatly increased. Its use in phthisis is by its mechanical action and its association with other remedies. It is the best medium for the conveyance of remedies by nebulization to the throat and bronchial tubes. It is an ideal remedy for the cure of all forms of constipation, and for treatment of tuberculous diarrhea.

29. **Infantile Amaurotic Family Idiocy.**—Claiborne reports a case of this disorder and discusses the condition. The patient was not a Jew. It differs from those previously reported in this respect, and general tuberculosis was also found at autopsy, with also a tumor of the corpora quadrigemina, with associated ocular symptoms. This suggested to him that special attention be called to tuberculosis as a probable general etiologic factor and to the corpora quadrigemina as the seat of a possible causal lesion. In conclusion he suggests the query whether we are justified in assuming the symptoms of this condition to indicate a definite morbid species or not.

33. **The Serum Treatment of Tuberculosis.**—Spicer reports a case of apparently rapid tuberculosis in a young woman with a bad family history, in which the prognosis was given as bad, but serum treatment was attempted as a last resort, the material used being the antiphthisic serum T. R. The initial dose was 8 minims, hypodermically, afterward increased to 15 minims. One hundred and four injections have been made in all during the seven months which have elapsed since beginning the treatment, and there are now no râles, no night sweats, and no cough, but she tires easily on exertion. Of the three other cases treatetd, in which only about 35 injections were made, two improved and one died. The inferences he deduces are, that the treatment should be begun early, it should be continued for a long time, and it should not be used in hopeless cases.

34. **Degeneracy Stigmata.**—Kiernan's article deals especially with the history of Lord Byron.

36. **Inebriate Criminals.**—The inebriate criminals which are described by Crothers are those that form the most troublesome class of asylum inmates. He thinks they require special treatment and should be classified in different groups and governed by strict military discipline in which labor is part of the treatment, and this be continued for months and years. If this class can be removed from the inebriate asylum the percentage of recoveries would be largely increased.

37. **Gynecology and Neurology.**—Hughes speaks of the inter-relation of gynecology and neurology, calling attention to the points where too much has been made of certain peculiar phases of functional hysterical diseases, etc. He thinks that too much attention has been called to the sexual function and its organs and less than should be to nervous symptoms in the gynecologist's practice. The psychic element is one that must be counted also in many cases, and special care exercised as to sexual and gynecologic suggestion in neuropaths.

38. **Military Psychiatry.**—Hughes discusses the conditions involving the mental health of the American soldier and pleads for psychiatric expert treatment in military posts. His paper concludes with some letters from the surgeon-general and deputy surgeon-general of the United States Army showing that the number of insane cases among the American soldiers in the Philippines is not apparently greater than the proportion that occurs ordinarily in time of peace.

40.—See abstract in THE JOURNAL of June 2, p. 1413.

41.—Ibid., June 2, p. 1414.

42.—Ibid., June 2, p. 1414.

43. **Color Perception.**—Holden and Bosse have experimented, using colored ribbons, and worsteds, with children at various ages to ascertain their color preference and color sense, and give the results. They found that these support by analogy singularly well the Gladstone theory of development of color perception in the human race, so that this may have a certain value, though we must go farther down in the mammalian scale than to primitive man to find the beginning of color perception. They found that all infants choose colors

from the red end of the spectrum rather than the blue, but as the psychic development proceeds and the child becomes more distinguished from the animal, and mental processes dominate the earlier more physiologic reactions, we find first an indifference to all colors and a little later as a rule a dislike for the exciting reds and yellows and a preference for the less exciting colors of the blue end of the spectrum. At the age of eight a blue or violet preference is almost universal, but red has begun to advance again from the lower end of the scale. In adults, as others have found, the end colors of the spectrum, blue, violet and red are the preferred ones. They find that untrained children as early as the third and fourth year, with the exception of those that were palpably color-blind, match fairly saturated colors with great accuracy, blundering only usually in confounding blue with violet. With worsteds of less saturated hue, the results are very different and a tendency to match according to luminosity rather than hue was frequent. When the child is 5 or 6 years old this tendency to match according to luminosity was lost and the matching even of tints and shades is done usually with considerable accuracy, though there still may be a tendency to confound blue with violet, which is outgrown only later.

48. **Retraction Movements of the Eyeball.**—The following is the summary of Wolff's paper: Retraction movements of the human eye have been described in only seven cases, to which five are herewith added. The retraction movements never occur as a solitary symptom, but always form part of the same group of clinical symptoms, producing a well-defined clinical picture, whose characteristics are as follows: The condition is always congenital. Retraction occurs during attempted adduction, which may be absent or present, but is always less than normal. Retraction is accompanied by narrowing of the palpebral fissure. Partial or complete paralysis of the external rectus of the retracted eye is regularly present. Some cases present a moderate constant retraction and narrowing of the fissure even in the primary position. In these cases attempts at abduction produce a propulsion of the globe and widening of the fissure. When the retraction is considerable the cornea is turned upward in some cases, downward in others, even when the fellow eye makes a purely lateral movement. This is due, probably, to resistance made by the optic nerve. Two explanations are offered to account for the retraction; the faulty insertion and the fixation theories. Though the former is supported by some evidence, the latter accounts more satisfactorily for all the symptoms and is even better supported by evidence. Surgical interference may benefit some of the cases. There is reason to believe that the retraction movements are often overlooked and that these cases are not so rare as the small number reported would indicate.

59. **The Relative Value of Vaginal and Abdominal Operations.**—Richelot concludes from his consideration of the subject that: "1. In uterine fibromas, the two methods, abdominal and vaginal, have an equal value; each one has its indications, but the upper route is the most often indicated, and vaginal hysterectomy can no longer to-day claim the same superiority as formerly. 2. In cancer of the uterus, vaginal hysterectomy is superior to every other method; it permits us to obtain, in a proportion of not less than 10 per cent., prolonged survival, and even cures which seem to be final. The best operation is that which precedes cancerous infiltration, and not that which pretends to pursue it through the pelvic cavity. Abdominal hysterectomy is an extra resource in a very limited number of cases, but, applied deliberately to invading cancers, it is an imprudence, and for limited cancers it is an illusion. 3. In pelvic suppuration the conduct to be used is variable and responds to complex indications; improvements of technique have given a great value to the suprapubic method, which ought to be preferred in certain cases. But most frequently, when the surgeon is sure of his diagnosis, if he wishes to give his patient the greatest security and the least suffering, vaginal hysterectomy is the method of election."

61. **Attitude of Fetus in Utero.**—Zinke thinks that too little attention is given in the instruction to abnormal presentations or the position of the fetus *in utero* and in this article he calls attention to the method of external manipulation to determine the position. He mentions that in nine cases out of ten the attitude of the fetus can be ascertained during the last ten weeks of gestation by external means of diagnosis alone, viz., inspection, palpation and auscultation. By the first of these we determine the contour, size and position of the uterus and frequently also the fetal movements. By the second we locate the movements, the head and back of the fetus. By the third we find the site where the impulse of the fetal heart can be heard with greatest intensity. He examines his patient in the recumbent position and for convenience divides the abdominal surface into four quarters, the lines crossing at the umbilicus. The paper is illustrated with schematic drawings showing the different positions of the fetal heart, etc., in the separate positions. See also title 21.

67. **Enucleation of the Eyeball.**—The conditions requiring enucleation are given by Lauder as follows: 1. Intraocular malignant tumors. 2. The presence of a foreign body impossible to be removed. 3. Injury to the eye precluding possibility of recovery; such as rupture of eyeball from the result of a blow, though recovery may be possible even in some of these cases. 4. Where there is a condition of epiocular malignant tumors and also orbital tumors, which threaten life, but which can not be removed without destroying the eye. 5. Cases of disease which cause intolerable pain and which are incurably blind. This condition is sometimes met with in irido-cyclitis, phthisis bulbi and in glaucoma absolutum. In this case operation should be performed only as a last resort after every other less radical operation has proved fruitless.

72.—See abstract in THE JOURNAL of June 2, p. 1414.

76. **Erysipelas.**—According to Carrier, erysipelas is an acute, infectious process of the skin and mucous membranes, self-limited, and always due to the Fehleisen streptococcus. The contents of the vesicular or bullous lesions are serofibrinous in character, and when pus occurs it is the result of infection by a pyogenic germ added to the erysipelas, in other words, a complication. Internal medication exerts but little influence over the course of the disease and should be reserved for emergencies. The dietetic management of the disease is of the greatest importance, and forced feeding furnishes the best means of combating it. Little is to be expected from the actions of germicides when applied locally. Protection from the atmosphere will relieve the distressing subjective symptoms. From the known influence of cold upon the life of the germ, it follows that a reduction of the bodily temperature is of prime importance, and is best accomplished by cold bathing while the continuous application of the ice-bag upon the affected surface is the best of local applications. Where sufficient pressure can be applied to the lymph-channels to interfere with the lymph-current, spread of the lesion might be controlled by its use. Isolation, a cold room, and plenty of fresh air, in addition to the above, furnish the best treatment for the process we have been considering.

77. **Tuberculosis.**—This paper by Evans is largely an attack on Koch, whom he credits with having taken the fruits of other earlier discoveries without credit, making himself as he says a literary anastomosis, whereby he has united to himself all previous experimental knowledge regarding this bewildering subject. The general point of his article is that consumption is still very little understood and that the men most of all in error are the ones who believe it to be a contagious disease.

79. **Motion of the Lymph.**—The argument brought forward in this article by Herz is that the lymph carries the nutrition rather to the tissues than the blood. It can not be followed in detail nor abstracted adequately and fully here.

90. **Ozena.**—The principal point of Holinger's paper is that ozena is mainly due to excessive wideness of the face and nostrils. With this there may exist also a metaplasia of the mucous membrane of the nose which is not explained.

92. **Hernia in Children.**—Bartholomew holds that no child should be allowed to reach puberty with an uncured hernia. If the truss treatment diligently followed should fail, operation should be undertaken. Hernia in children in most cases is congenital and of the oblique inguinal variety, and the open-

ing is easily closed and less liable to recur than in the adult. About 8 per cent. of them are not amenable to treatment by trusses. Trusses are not well borne by children and are difficult to manage, and after three years of faithful treatment nearly 50 per cent. of cases are still uncured. Hernias thus cured frequently relapse after adolescence. Generally speaking, the best time to operate is just before the child assumes the upright position. Mechanical treatment should not be persevered in after this unless there is marked diminution in the size of the hernial opening. The indications for the radical cure of hernia are: 1, cases complicated with hydrocele; 2, irreducible, incarcerated and strangulated hernias; 3, cases in which the hernia can not be kept up by a truss without much discomfort to the patient; 4, cases unable to obtain the care requisite for success, and 5, cases in which mechanical treatment has been faithfully tried without results.

97. **Nirvanin.**—The paper by Floeckinger gives the results of experiments which he sums up as follows: Cocain has a ten-fold more toxic action than nirvanin in the same dose. Disturbance on the side of the central nervous system and toxic symptoms in the employment of nirvanin in the stated doses (0.1 to 0.5 gm.) occurred in not a single case. Nirvanin has an antibacterial action which is entirely absent in cocain. The analgesia from nirvanin lasts longer than that with cocain and it also appears earlier. We can absolutely exclude a nirvanin habit. The burning pain is only present in nirvanin injections with the too rapid flow of the injection fluid. The after-pain which is always present in cocain injections is absent in the correctly performed nirvanin injections. In the major operations he has usually employed injections of morphin one-half hour before the operation, which had a quieting effect on the organs, the dose is from ⅛ to ¼ gr.

100. **Cesarean Section.**—Williams enumerates the advantages of Cesarean section as compared with those of symphyseotomy; the maternal mortality is no greater and the infant mortality *nil;* the operation is more satisfactory from the surgical point of view; there is the certainty of being able to complete the operation at once and the great advantages afforded in the after-treatment, by the clean abdominal incision, instead of a wound at the pubis requiring drainage, not to speak of injuries to the soft parts. There is no necessity for prolonged catheterization, and the patient is spared the long convalescence entailed by symphyseotomy. He believes that the old absolute indication for Cesarean section should disappear and instead of being placed at a conjugate of 5.5 cm. it should be extended to 6.5 cm. provided the child is alive. Questions as to sterilization in cases of deformity of pelvis, and craniotomy are also discussed. He thinks that induction of labor six weeks before the expected confinement is advisable in case of multiparous women with normal pelves who have given birth repeatedly to large children which have died during labor. By this method he thinks we will be able to save the mother and child and have better results than with Cesarean section as far as the mother is concerned and probably as good with the child. In advising Cesarean section he does not mean to say that it should be attempted by those without experience in major surgery. The average case is simple, but in a minority of cases the uterus may fail to contract and hemorrhage threaten. In such instances the only resort is to remove the uterus, and unless the physician feels competent to do this he had better not attempt Cesarean section.

106. **Gynecologic Mistakes.**—The mistakes mentioned by Hayd are, the useless operations performed for the relief of pain otherwise relievable; the useless and reckless curetting done in many cases of mild endometritis; the neglect and mistreatment of cervical lacerations, etc.; the uterine treatment for ureteritis and rectal troubles; the error of mistaking neuralgic ovarian disorder for organic disease; the misuse of the uterine sound and uterine applications; the harm done by galvanic electrode and pessaries. Although the cry is that there is too much operating done now, yet in the face of this just criticism he believes that most of the symptoms producing definite and discoverable lesions of women are cured best and quickest by operative measures and the error in the past was in not pushing surgery far enough.

108. **Medical Treatment of Cataract.**—The testimony of the laity and some physicians as to the value of certain drugs, such as cineraria for cataract, induced Grove to give it a trial. He has found it absolutely worthless. He does not have faith in any medicinal treatment of cataract. Massage may do harm as well as good and the claims of galvanization have likewise no reliable foundation.

111. **Surgery Among the Insane.**—This latest of Hobbs' papers on this subject enumerates the difficulties and advantages of surgical operations in the insane. The former are detailed as follows: 1, difficulties of diagnosis due to lack of reliable subjective symptoms and the frequent anesthesia in these cases; 2, difficulties of examination due to their mental condition and delusions; 3, difficulties of anesthesia, and these patients are especially sensitive to chloroform, which is liable to produce uncomfortable symptoms; 4, difficulties of preparation for operation, and 5, difficulties of after-treatment, both depending on the mental condition of the patients. On the other hand there are the advantages of little or no shock, the possibility of enforcing proper care in the after-treatment and the easy recovery from ether narcosis. While he does not operate for the relief of the mental condition, he again claims he has most remarkable results in the way of cures of insanity. He divides his patients into two groups: the inflammatory group, in which the improved ratio of recovery is 17 per cent., and the non-inflammatory group of cases, in which the ratio of improvement is somewhat less but still remarkable.

131. **Losdorfer's Bodies.**—Neudörfer describes as a new discovery the findings by Dr. Losdörfer, of Vienna, of certain germs or bodies in the blood of syphilitics. There is a peculiar resemblance between the name of this new discovery and the old long-known Lostorfer corpuscles, which are not mentioned in his history of preliminary work along this line in the beginning of his article. He thinks this new discovery is a long step in advance in the solution of the question as to the origin of syphilis.

140. **Suprapubic Cystotomy.**—The advantages of suprapubic cystotomy are, according to Nuzum: 1. The ease and safety, under modern antiseptic procedures, with which it can be performed. 2. The operator has full and easy view of the field of operation. 3. The operation is adapted to any disease or condition for which a lithotomy should be made. 4. It is far less dangerous than any cut into the bladder through the perineum. 5. You go through parts less richly supplied with nerves, blood-vessels, and important structures. 6. If a fistula remains, it is not constantly leaking, and with a properly adjusted urinal, the patient can pursue his occupation with very slight inconvenience or discomfort. 7. The ease with which a permanent fistula can be maintained when desired.

150. **Treatment of Uterine Fibroids.**—Smith considers the subject of the surgical treatment of uterine fibroids and concludes that curettage is the best palliative method of controlling hemorrhage though it fills no other indications. Ligation and resection of uterine arteries is advisable and should be employed with small tumors for the purpose of promptly arresting hemorrhage and growth. Castration, while yielding good results in some hands, notably Tait's, has fallen into disfavor, chiefly on account of its uncertainty and the possible dangers of the operation. Myomectomy is an operation of election in all women under 45 years of age where it is possible by this means to restore normal function, and after failure to arrest the growth by ligation of the arteries in suitable cases. In attempting myomectomy the operator should always be prepared to resort to hysterectomy if found necessary. Hystero-myomectomy is and always will be a last resort in dealing with these growths.

151. **Panhysterectomy.**—Rendon gives the description and technique of hystero-myomectomy and panhysterectomy, comparing their advantages and disadvantages, and finds that the latter does away with many of the inconveniences of other methods, and should be preferred.

154. **Compound Fractures.**—Nutt insists on the importance of early intervention in compound fractures and the utmost care as to the asepsis and prior preparation, and he

would first remove all foreign bodies, using hot water and soap, followed by disinfection, and flushing with large quantities of bichlorid solution and later sterilized water. Drainage should be placed in the most dependent part, as the vis-a-tergo action expected of gauze drainage is unreliable. Immediate amputation in cases involving the long bones need only be considered when it is a question of the patient's general condition being such as to undergo prolonged confinement in bed or to perfectly resist infection. Amputation, after traumatism and fractures completely destroying the circulation of the part, will demand such treatment as indicated in each individual case.

162. **Commissions by Specialists.**—Lanphear deals with the ethical propriety of a division of fees between the specialist and general practitioner. His conclusions are that no commission should ever be paid by the specialist for business simply referred or for ordinary consultation. No division of the fee should be thought of when the patient is taken to the specialist for consultation and operation. A division of fee is justifiable and honorable whenever the family doctor accompanies the patient a long distance and the patient can not or will not pay more than traveling expenses and the specialist's charge. It is also justifiable when the family physician is put to much trouble or loss of time in inducing the patient to submit to a specialist's treatment and the patient will not pay the doctor for his services. A division of fee is proper when the specialist operates and the physician assists and attends to the after-treatment. Division of the fee is also justifiable when the specialist and doctor treat the case jointly, as there are a large majority of people who will not pay two bills.

167.—This article has appeared elsewhere. See THE JOURNAL xxxiv, 127, p. 1060.

175.—Ibid., July 21, title 96, p. 187.

177.—See abstract in THE JOURNAL xxxiv, p. 1259.

FOREIGN.

British Medical Journal, July 7.

Use of Borax and Formaldehyde as Preservatives of Food. W. D. HALLIBURTON.—The attention of the author was called to the use of antiseptics as food preservatives, especially boric acid and borax, and formaldehyde. His experiments have led him to condemn them for such purposes. He does not find that boric acid itself has much effect on the digestion, which is probably partly explained by its insolubility, but borax, which has been used considerably in the compound, glacialin, a mixture of boric acid and borax, has a decided effect on the rennet activity in the stomach. The proportion of 1 part to 1000 of milk completely inhibits rennet, and a smaller proportion will delay its action. Formaldehyde, which is one of the most efficient of antiseptics, disintegrates the blood, and is irritating to the skin, and hardly can be less so to the much more tender mucous membrane of the stomach. His experiments were made to test the influence of formaldehyde on gastric digestion of proteids, and showed that .5 per cent. of formaldehyde rendered gastric digestion almost impossible, and .05 per cent. considerably delayed it. The influence on pancreatic digestion of proteids was similar and even more striking, while the action on the pancreatic digestion of starch showed that the addition of a .2 per cent. solution of formaldehyde increased the digestive time from one to three minutes. The action of two drops on the rennet-curdling of milk showed the same action—in some cases complete inhibition on the action of the ferment and in all cases delay. He says the proportion in which formaldehyde is stated to be used in milk is, roughly, 2 drops of the commercial 40 per cent. formaldehyde solution (formalin) per ounce of milk, and a much smaller dose than this has a decided effect.

Seventy-Two Consecutive Cases of Removal of Goiter by Operation (Extirpation or Enucleation). JAMES BERRY.—The author reports the results of extirpation and enucleation in 72 cases of goiter. By extirpation he means the removal of a portion of the thyroid gland with its capsule; by enucleation the removal of localized tumor, a cyst or adenoma within the gland. The necessity for operation depends on the effect in embarrassing respiration of the growth, and he does not consider deformity alone a sufficient cause. Dyspnea almost always demands operation and the worse the dyspnea the more urgent the demand. In cases of malignant tumors, however, tracheotomy affords too often the only means of giving relief. There are two kinds of goiter that are especially dangerous to life, owing to their great liability to cause sudden and dangerous dyspnea. One is the rapidly growing parenchymatous and, of course, bilateral goiter occurring at the age of puberty. In such cases dyspnea may come on so rapidly and suddenly as to cause death within a few days or hours. The other dangerous variety is that in which a unilateral tumor is situated low down in the neck and tends to become jammed in the upper opening of the thorax. By being suddenly displaced or by internal hemorrhage such tumors may cause very serious symptoms. Unilateral goiter above the sternum has very little tendency to cause serious dyspnea. Small tumors at the back of the gland are not uncommon and may cause pressure symptoms and yet be difficult of diagnosis. In local operation he prefers local anesthesia as safer and more convenient, saving the patient moreover from the distressing retching and vomiting, and it also facilitates healing of the wound by avoidance of venous hemorrhage. The operation is not necessarily a painful one with local anesthesia; the only painful parts are the beginning and end, the incision of the skin and sewing it up. The single oblique incision along the anterior border of the external membrane is decidedly the best for large goiters, and where plenty of room is desired. Complicated, angular, or T-shaped incisions are scarcely ever necessary. The median incision is chiefly useful when it is uncertain which lobe is to be removed. All longitudinal and oblique incisions have the disadvantage of making an ugly scar in young persons; in middle-aged or old persons this is of less importance. The transverse incision does not give the operator nearly so much room. The operation of enucleation is done as quietly and deliberately as possible, all large vessels being tied before cut. Special care must be taken not to wound the recurrent laryngeal nerve; it is better not to disturb it by dissecting it out. Frequently he cuts through the goiter near the trachea after it has been isolated from the other parts. The capsule and small part of the goiter near the trachea are thus left to protect the nerve. He has but little to say as regards the details of enucleation; the chief difficulty is in recognizing the thin layer of altered gland tissue that covers the tumor. The incision should be carried through this and no farther. He attaches no importance to the removal of the tumor in unbroken condition. His results, some of which are illustrated and all of which are tabulated, give a mortality of three deaths in seventy-two cases, which he thinks is not unfavorable, considering the fact that these cases were formidable ones. One death was from chloroform, and one of the patients had also valvular heart disease. No deaths occurred from his enucleation operations. The ultimate results have all been good, and since the paper has been written he has operated on 20 more cases, bringing the total up to 100.

Degeneration of the Neuron. FREDERICK W. MOTT.—In this third lecture the author discusses the chemistry of degeneration and the chemistry of Marchi's method. He suggests the possibility of autointoxication due to choline formation from nervous degeneration. He assumes that a decomposition of the myelin of the proteid matter occurs, and that it escapes into the cerebrospinal fluid and thus into the blood in larger quantities than can be disposed of by oxidization, where its accumulation may produce autointoxication. This might account possibly for some of the symptoms of paresis. Choline is not a powerful toxic substance like neurin, which may also be produced under special conditions such as the existence of micro-organisms, and have its effect. There are two forms of degeneration, he says in conclusion, that may react to the Marchi stain: 1. Secondary Wallerian degeneration due to interruption of the axon when it is cut off from its cell or origin; fibers which have their cells or origin above the lesion degenerate downward and are recognized by the black-stained products of degeneration mapped out in definite areas. 2. Primary degeneration due to an altered condition of the blood and lymph caused generally from an introduction or generation of poisonous substances, insidious in origin, progressive and generally fatal. They are influenced by hereditary or acquired tendency to nervous degeneration, and election of the

particular system or systems of neurons not only constitutes definite growths of clinically definite disease, but also constitutes definite groups of physical phenomena, which admit of classification into definite diseases, and also shows that certain poisons have elective affinities for particular systems of the neurons, but this election may also be determined by occupation and habits causing stress on some particular system of neurous, or vascular conditions may lead to circulatory degenerative changes determining the early appearance and more rapid degeneration changes in some parts of the nervous system than in others. Thus certain portions of the brain should show more atrophy and degeneration in paresis than others, the left hemisphere for example.

The Lancet, July 7.

Present State of Our Knowledge Regarding Visual Sensation. R. MARCUS GUNN.—The state of our knowledge as regards the sensation of sight is reviewed by Gunn, who notices first the nature of the stimulus. The term "ether wave" must not be held to imply any actual movement in the ether, but rather an influence and rapid periodic change of some of its properties. The theory now held in regard to the vibration of ether is that they are electro-magnetic. The human retina is influenced by a comparatively short part of the entire scale, corresponding to what may be called an octave. The shortest visible waves are approximately half the length of the longest, while on either side of these there are several octaves of invisible waves. There is no real distinction between heat and light waves. The phenomena produced by light in the living cells without visual function are: 1, movement of chlorophyl corpuscles; 2, chemical activity in the chlorophyl-containing cells; 3, the contraction of protoplasm. To these we may add phototaxis, which means the position or motion of free cells in relation to light. The general characteristics of a visual cell are: 1. The end of the cell corresponding to the cuticle has usually a rod-form prolongation. 2. The opposite end is either directly continued as a conducting fiber or is connected with a ganglion cell. 3. Pigment is present in the light percipient cell, or in a distinct or closely related cell, often in both. The arrangements in vertebrates are noticed. The action of light on such cells consists in the movement of pigment and swelling of the pigment-cell processes. There appears to be an oxidization process accompanied by a substitution of an acid for a previous alkaline reaction, which seems to be communicated to the rods and cones, and varies according to the wave-length. There are also with the action of light, besides this particular visible purple reaction, certain movements of the cones themselves and the effects on the visual and non-visual cells are on the whole strikingly similar. Very recently Waller has brought forward evidence showing that the light effect upon the fresh leaf is also accompanied by an electrical change, thus completing the parallelism. The conduction of impulse requires the nervous apparatus and nerve impulse, which can not be identified with the electric excitation in the visual cells themselves. The author discusses the physiology, where known, of this process. In the lower animals the fundamental idea of vision seems to be to connect it with muscular action in a protective way, and in finding food. He also mentions where changes in the color under the influence of the surroundings is shown in certain animals. As we go higher in the animal scale we find the visual fibers passing to the visual area of the cortex, but whether this is the seat of visual impression or merely a stage in the path to yet higher centers is not absolutely known. As regards our recognition of the conducted impulse we have two distinct sensations—color and brightness—both influenced by differences in the wave colors and wave lengths. Of these two sensations there is reason to believe light perception the more primitive, and that the rods are the elements concerned in this appreciation. It does not follow that the cones are functionless in this regard, but it is presumable that their office is the recognition of differences in stimulation associated with variations in the wave lengths recognized as colors.

Contagious Catarrh or Roup in Fowls, and Diphtheria in Man. J. GORDON SHARP.—The writer first distinguishes between gapes and roup, the former being due to a nematode worm in the windpipe, the latter presumably a bacterial disease which closely resembles diphtheria in its clinical features. A microbe was found which could not be distinguished from the Klebs-Loeffler bacillus, but it does not seem to transmit the disease to those handling the fowl. His conclusions are stated as follows: 1. Roup, like diphtheria—including the somewhat indefinite term "croup"—varies in its malignancy, sometimes being mild with only one or two deaths in a large hen-run, while the next epidemic may almost clear out the whole coop. 2. The disease does not appear to be transmissible to man, for those handling the affected birds without any precautions do not suffer from any disease resembling diphtheria. 3. Paralysis was, according to his observations, absent in roup cases. 4. The disease is evidently a highly contagious catarrh and may correspond to the *morve* or fowl glanders of the French. 5. Roup probably differs entirely from "fowl diphtheria," so-called. 6. As we have already seen, bird-fanciers distinguish between a "dry roup" and a "wet roup." Dry roup is most likely a simple benign catarrh corresponding to the recurring croup affecting children, especially those inhabiting valleys and near a river bank. Wet roup, on the other hand, in its malignancy resembles diphtheria and membranous croup. 7. The micro-organism of roup (the wet variety or malignant variety) probably lives for a considerable time, at least, in the earth near the surface, and thus it is readily spread from animal to animal—as well as by direct contact with affected birds. 8. Conditions of soil and surroundings favorable to the spread of diphtheria would likewise appear to favor the spread of roup in fowls.

Annales de la Soc. Med.-Chir. de Liege, April.

Foreign Body in Maxillary Sinus. E. GULIKERS.—A soldier fell from his bicycle while smoking a pipe, and for 1½ years afterward a slight swelling of the left malar region persisted, with a fistula at the point where the first upper bicuspid had been extracted six years before. The fistula into the maxillary sinus was enlarged and a fragment of the amber mouthpiece of a pipe, 5 cm. long by 1.4 wide, extracted. The sinus communicated with the nose, which explained its tolerance for the foreign body.

Forced Delivery in Eclampsia. GALHAUSEN.—An experience with eleven cases of serious puerperal eclampsia treated by forced delivery after failure of other methods has convinced the writer that this is the only rational treatment in many cases. In one observation the eclampsia commenced at the fourth month of pregnancy. He observes that rapid digital dilation, combined with the use of forceps, is most effective, and that he has never known an eclamptic seizure to be induced by these maneuvers. When albuminuria and oliguria are not noted until after several attacks, the prognosis is more favorable than when they occur early.

Perforating Appendicitis in an Infant. GOYENS.—An infant six weeks old, fed with boiled milk, suffered from diarrhea, and a tumor was noticed in the right inguinal region. The autopsy showed a gangrenous, perforated appendix with consequent peritoneal infection and septicemia.

Bulletin de la Soc. Med. des Hop. de Paris, June 14 to 28.

Nerve-Lesions in Zona. G. BALLET.—A female patient, 68 years of age, with primary zona or zoster fever, the cutaneous lesions localized on the left side of the neck, extending from the jaw to the upper part of the thoracic wall, died of a brief intercurrent pneumonia, which commenced on the nineteenth day. The posterior root of the third cervical nerve was found very much altered. The myelin was dissociated in fragments in some of the funiculi, with proliferation of the protoplasm; in others scarcely a trace of the myelin was to be seen, and no axis-cylinder. Some of the sheaths were entirely empty. The posterior root of the second cervical nerve presented similar, but much less intense, lesions, and the small cells of the corresponding portion of the posterior horn were atrophied and less numerous than on the other side.

Echo Medical (Lille), June 17.

Comprehensive Tests of "Varnish Gloves." MARIAU.—Calmette devised a special apparatus for these tests of the varnish proposed by Mariau as a durable, flexible and effective covering for the hands of the surgeons—Soehnée Frères' white varnish, No. 3. A large box shaped like a desk, with the sloping portion of glass, contained a quart dish of bouillon and

the appliances for varnishing. The hands were soiled with dirt and germs and then inserted through armholes into the box, where they were thoroughly coated with the varnish and dried. They were then dipped into the bouillon and moved around in it vigorously for several seconds. The bouillon was then poured into tubes but no cultures developed after repeated tests.

Presse Medicale (Paris) June 27.

Leucocytosis in Variola. E. WEIL.—Variola is generally accompanied by a leucocytosis, which is a mononucleosis of large granulated or non-granulated myelocytes, the mother-cells of the normal leucocytes in the blood. This type of leucocytosis has been noted in myelogenic leukemia alone, and it shows an interesting analogy between leukemia and variola, which also affects the bone marrow. Nucleated red corpuscles may also appear in the circulation; they are constant in the hemorrhagic forms, with one normoblast to 100 leucocytes, and possibly 25 per cent. of neutrophile mononucleated cells. The pus of the pustules contains the same variety of leucocytes found in the blood, and consequently the suppuration is evidently an integral part of the variolar infection. The differentiation of variola is possible at an early stage by the study of the blood; the only eruptive disease resembling it is varicella, in which a mononucleosis also occurs, but much less intense.

Tuberculosis and the Police. L. LANDOUZY.—The mortality from tuberculosis among the nurses and attendants in the city hospitals of Paris is 36 per cent. of the total mortality, and among the postal and telegraph clerks it is 25 per cent. Landouzy has been compiling similar statistics in regard to the police force and announces that policemen pay the heaviest tribute of all to the white plague. Out of 1316 deaths or dismissals from all diseases during the last ten years, in a force averaging 7678 men, the proportion due to tuberculosis amounted to 474, or 37 per cent.

Cocain for Spasmodic Retention of Urine. R. ROMME.—Martel has recently called attention to the efficacy of a warm or hot injection of 6 to 7 c.c. of a 2 per cent. solution of cocain in cases of reflex spasmodic retention, after failure of the usual measures, hot cataplasms and irrigation. The effect of this intraurethral injection should be awaited for fifteen minutes or longer before resorting to catheterization.

June 30.

Vitality of the Plague Bacillus in Grain.—According to the research of Hankin and Lorans the plague bacillus in grain does not survive more than four to six days, consequently the danger from this source is slight.

Treatment of Wens with Injections of Ether. E. SERGENT.—Vidal first suggested treating sebaceous cysts with an injection of pure ether into the depths of the wen, repeated every other day for four or five days; a large cyst requires an injection every twenty-four hours. Sergent has thus cured thirty cases, and states that this treatment is never painful; there is no bleeding nor danger of any kind if aseptic precautions are duly observed. It is so simple that no special skill is needed and it leaves no scar nor trace of the vanished wen. No other method combines one-half of these advantages.

Artificial Serum for Debility in Infants.—Small rectal injections of 5 to 10 c.c. of Hayem's artificial serum are given new-born infants, at the Baudelocque clinic, in case of congenital or acquired debility, with extremely beneficial results, even in the incubator. They raise the temperature and general health and are valuable as a prophylactic measure when diminishing weight suggests impending debility, and as a curative measure in cases of edema, vomiting, hemorrhage, icterus, constipation and diarrhea. If the injection is expelled, it is repeated.

Compression of the Eyeball as a Sign of Tabes.—Pitres asserts that compression of the eyeball—which is painful under normal conditions—is not felt in two-thirds of the cases of tabes; consequently this analgesia of the eyeball may be accepted as an auxiliary sign in differentiating dubious cases.

Allg. Medicinische Central-Zeitung, April 18.

Local Causes of Pulmonary Tuberculosis. AUFRECHT.—The miliary tubercles found in autopsies are not an infectious process, but merely the result of infarct formation in the finer ramifications of the pulmonary artery, with proliferation of the wall elements and consecutive thrombosis. Chronic desquamative processes follow, with softening and disintegration of tissue and formation of cavities. This offers the opportunity for the tubercle bacilli. The apex is predisposed to these processes on account of the defective circulation due to a sedentary life, and also from the stretching and pulling of the apex tissue during severe physical exertion demanding unusual effort of the auxiliary respiratory muscles. Miliary tubercles are therefore, merely the cross-section of a vessel with thickened walls. This communication is preliminary to a full presentation of the subject at the International Medical Congress.

Berliner Klinische Wochenschrift, June 4.

Bactericidal Power of Alcohol. SALZWENDEL.—The disinfecting power of 50 or 55 per cent. alcohol—by weight—is about the same as that of 3 per cent. carbolic acid or 1 per 1000 sublimate, and it is not affected by the addition of soda or soap. The bactericidal action is less in a stronger solution.

June 11.

Malarial Infection. E. GRAWITZ.—Mosquitoes can not be the only medium of infection of malaria, as Grawitz states that the statistics of the military hospitals in northern Germany show that the number of cases of malaria attain their maximum during June, the increase commencing abruptly in March, before mosquitoes make their appearance.

June 18.

Gastrointestinal Disinfection. R. SCHÄTZ.—Experiments with Metschnikoff's vibrios introduced into the intestines of dogs, through a specially contrived canula for the stomach and intestines, demonstrated that calomel and other disinfectants seemed to arrest a natural bactericidal process which evidently occurs in the intestines in normal conditions. The spontaneous feces contained very few of the vibrios, but the discharges consecutive to the ingestion of calomel contained large numbers. Schätz concludes that the normal intestines possess an inherent bactericidal power of their own.

June 25.

Prognosis in Glycosuria and Diabetes. F. HIRSCHFELD.—On account of the variability of diabetic functional disturbances, the prognosis of the milder forms of diabetes is more favorable than is generally accepted by physicians at present. Hirschfeld's experience has been that relative recovery, i. e., absence of sugar with 200 gm. carbohydrates a day, may be anticipated when 80 to 85 per cent. of the ingested carbohydrates are still consumed in the organism at the outbreak of the disease. He has noted diminished assimilation of carbohydrates after influenza, and peculiar attacks of colic, possibly originating in the pancreas, especially intense in cases with gangrene and furuncles. The heart weakness frequently noted in diabetes is favorably influenced by an antidiabetic diet without complete suppression of carbohydrates.

Centralblatt f. Allg. Pathologie, April and June.

Unusual Invagination. F. WACHSBERG.—At the autopsy on a young man who had died from obstruction of the bowels, the small intestine was found debouching into the ascending colon 16 cm. from the end of the cecum. A cicatricial constriction was noted at the tip of the cul-de-sac formed by the end of the cecum. Wachsberg explains this phenomenon by assuming that the small intestine had become invaginated into the cecum, while the portion above had become adherent to the ascending colon, with eventual perforation into the latter. The invaginated portion had sloughed off and the wall of the cecum grown over the opening.

Senile Changes. M. MÜHLMANN.—The works of Russian authors on senile modifications are reviewed in this comprehensive article and the various manifestations of involution are tabulated. We note that the absorption of sodium salicylate and potassium iodid proceeds much more slowly in the aged and most rapidly in children. Cataract is usually accompanied by arteriosclerosis in elderly people. The menopause occurred before 30, in 45 women out of 1555; between 31 and 35, in 55; between 51 and 55, in 139; between 56 and 60, in 40, and between 61 and 65, in 22.

Centralblatt f. Bakteriologie (Jena), May and June.

May 4.

Plague Laboratories. MARKL.—Isolation of the site is of much less importance than regulation of the intercourse between the inmates of a plague laboratory and outsiders. The furniture should be painted white to increase the illumination and there should be no sharp edges nor corners. The instruments and appliances should be sharp and light, not requiring assistance in moving them. For rat-glasses, Paltauf uses wide jars with a closely fastened wire netting cover, draining into a receptacle filled with sublimate. Carcasses should be dipped in sublimate before opening, to prevent escape of dust.

Human Tubercle Bacilli in Frogs. V. SION.—Extensive experimentation with cold-blooded animals at Bucharest showed that the tubercle bacillus does not produce any characteristic lesions in frogs; it does not become generalized nor apparently modified in any way. Guinea-pigs succumbed as usual to the action of tubercle bacilli that had been for six months in the peritoneal cavity of a frog.

Reply to Sanarelli. GEO. M. STERNBERG.—The latest research on the bacillus of yellow fever demonstrates that Sternberg's bacillus belongs to the colon group, while the bacillus icteroides is a member of the hog-cholera group. In animals, the lesions, the course of the disease, clinical symptoms, etc., produced by the bacillus icteroides are identical with those produced by the hog-cholera germ. One will immunize against the other and they reciprocally agglutinate. The blood of yellow-fever patients will not agglutinate the bacillus icteroides.

Antileucocyte Serum. M. FUNCK.—An emulsion of rabbit spleen or bone marrow injected repeatedly into the abdominal cavity in guinea-pigs resulted in the production of an antileucocyte serum which destroyed the leucocytes, even in a one-tenth dilution, in twenty-four hours. The action of the marrow-serum seemed to be limited to the destruction of the polynucleated leucocytes. No agglutination was observed.

Centralblatt f. Gynekologie (Leipsic), May and June.

May 12.

Rupture of Uterus. WALLA.—Twenty-eight cases of rupture of the uterus have been observed at the Budapesth clinic. With conservative treatment, 10 died out of the 17 incomplete, and 6 of the 11 complete ruptures. Five of the patients with complete rupture were operated on and two were saved. The uterus was removed by laparotomy in one and by supravaginal amputation in the other, with extraperitoneal treatment of the stump.

May 19.

Vaginal Cysts. L. FINCUS.—A vaginal cyst seldom causes disturbances, but in four cases that came under the writer's observation a vaginal cyst had induced cystitis and other serious troubles. In one patient a long course of bladder treatment had been instituted, with the final decision that the disturbances must be of a hysterical nature. The patient had refused to allow examinations of the genital organs. In another case the cystitis had been attributed to pressure of the uterus. In the third, the cyst had dragged on the tissues and caused prolapse of the vagina and commencing prolapse of the uterus, and in the fourth, the cyst had induced severe menorrhagia and prevented fecundation. Removal of the cysts cured all the disturbances at once.

June 2.

Operative Treatment of Tubal Pregnancy. JUNG.—Martin always tries to preserve the tube in operating on patients with tubal pregnancy. Nine cases have been thus treated at his clinic; the tube was merely incised, evacuated and sutured, in 3 cases; a portion was resected in 3, and the tube required removal in the rest—all by anterior colpotomy. He restricts the abdominal intervention to cases in which acute anemia, the size of the fetus or extensive adhesions contraindicate the vaginal route.

June 16.

Rupture of the Cervix. HAMMERSCHLAG.—In the unique observation related, the cervix became enormously stretched during delivery and ruptured, the fetus escaping into the abdominal cavity. The uterus was removed entire and found to consist exclusively of fundus and cervix, the latter 14 cm. in length, with no intermediate portion.

June 23.

Atmokausis. L. PINCUS.—The temperature in the uterus can be raised to within three or four degrees of the temperature in the kettle by intermittently closing the lumen of the tube in applying "autokausis." Pincus observes that the copious discharge that follows it is a powerful means of eliminating infectious germs, while the rampart of granulations that forms beneath the scab protects against the further penetration of the microbes into the organism.

New Treatment of Vesicovaginal Fistula. S. SPASSOKOUKOZKY.—Three patients have been operated on by the writer by his method, with such success that even the necessity of catheterization was avoided. He inserts six threads in the vesical portion of the fistula walls and, by traction on them through the vagina, transforms the fistula into a large, funnel-shaped opening into the bladder. Each edge is then slit for a short distance, equidistant from and parallel to the mucous membrane of the bladder and that of the vagina, and the threads are tied to it and drawn out through the urethra. Traction on these threads draws the bladder portion of the fistula into a tight wad projecting into the bladder and spreads the slits until the opposite edges on each side become coapted. The vaginal portion is sutured and the resulting solid vesicovaginal wall is four times as thick at the site of the fistula as elsewhere, with a broad expanse of freshened surface between the points where the mucous membrane was sutured, above and below, projecting upward into the bladder or downward into the vagina.

Centralblatt f. Harn u. Sexual-Organe (Leipsic), June 16.

New Theory for the Treatment of Gonorrhea. K. JOOSS. The chief factor in the success of any method of treating gonorrhea is the massage of the urethra. The aim of treatment should be to reinforce the normal defensive processes of the organism and this can be best accomplished without drugs, by regulating the circulation with frequent and progressively increasing massage, at first by irrigation with fluids, then by sounds and dilators after cocain anesthesia, supplemented by a weak astringent, and massage through the rectum if the posterior urethra is involved. Gonorrhea is never definitely cured until the tissues and circulation have returned to normal. This can be affirmed when the last dilatation fails to induce turbidity in the first portion of urine, when the prostate is soft and elastic and its secretion no longer yellowish, when all discharge has ceased and the urethra is dry and the urine clear in both portions except possibly for a few small floating threads or flakes. If these conditions persist for fourteen days, we can assure the patient that he is cured.

Centralblatt f. Innere Medicin (Leipsic), June 9.

Acquired Stenosis of Pulmonary Artery. A. KASEMBECK.—Mitral and tricuspid insufficiency was diagnosed from the symptoms: double hydrothorax, ascites, edema, hydropericardium, enlargement of the right ventricle and positive venous pulse, but the autopsy disclosed stenosis of the pulmonary artery. The patient was a workman, 50 years of age. The systolic murmur was very loud at the apex, muffling the sound, loudest in the second left intercostal space, while a weak diastolic murmur was most distinct in the corresponding right space. The pulmonary sound was no louder than usual. The walls of the pulmonary artery were thickened in patches—actual gummata—the lumen was constricted. The writer reports two other cases in which the same error in diagnosis was made by a colleague. Palpation of the heart region induced a systolic thrill, also loudest in the second left intercostal space.

Dermatologisches Centralblatt (Berlin), June.

Sulphur in Acne. S. BEHRMANN.—Chlorosis at puberty is frequently associated with acne and the latter disappears as the former is cured. Sulphur by the mouth has frequently a most favorable effect on chlorosis, which Behrman considers an intoxication. The purgative effect of the sulphur is supplemented by a specific elimination through the skin, thus exerting a local influence on the cutaneous glands, the seat of the acne lesion. Consequently he recommends sulphur for internal and local external application as a rational and successful method of curing acne, especially when it complicates chlorosis.

Wiener Klinische Rundschau, June 24.

Tonicity and Innervation of the Anal Sphincters. FRANKL-HOCHWART.—As the result of investigation of ninety-five dogs, the writer has established that anal continence depends to a large measure on a permanent muscular contraction not only of the striated internal, but also of the non-striated external sphincter. It is involuntary, but is dependent on the nervous system, although it does not degenerate after the nerve is severed, and resists the action of curare for an unusually long time. Constriction and dilatation occur even after complete destruction of the spinal cord, by stimulation of the inferior mesenteric ganglion, and even after this and the rectal nerves have all been severed, by the action of muscarin, annulled in turn by atropin.

Wiener Klinische Wochenschrift, June 28.

Trachea Tube. R. GERSUNY.—Nearly twenty years ago Gersuny published in the annual report of the Karolina Hospital the description of a trachea tube of his design, which was proved its usefulness more and more every year, but is only locally known. He, therefore, calls the attention of the profession at large to its superiority over the tubes generally in use. The chief improvement is the fact that it tapers below to one half the diameter of the upper portion, and that the opening is located exactly in the center of the trachea when inserted. The tube must be made of metal, but the higher initial cost of the metal is compensated by its durability. The upper portion fills the trachea completely and prevents the extension of the diphtheritic process or the passage of secretions into the organ. The incision required for its insertion is larger than usual, but this is of no importance and facilitates the reintroduction of the tube when taken out for any purpose; it is not necessary to have a second tube ready. There is no danger from pressure-necrosis, as the tapering tube does not come in contact with the walls of the trachea below. It is inserted with so little trouble that the internes accomplish it without assistance except from the nurse.

Fracture of the Bones of the Nose. K. BÜDINGER.—The method of treatment advocated for fractures of the upper portion of the nose—which are usually longitudinal, with a tendency of the fragments to lateral dislocation—is a median incision and reposition of the fragments, holding them in place with a few fine stitches. No time should be wasted in endeavors to replace them from within, nor with external application of plasters, etc.

Luxation of the Acromion. K. BÜDINGER.—Luxatio clavículæ acromialis is difficult to reduce and hold in position. Sutures of the bones frequently fail to maintain them in a correct position. Büdinger has been unfailingly successful with his method, which consists in boring with his longest and strongest drill directly through the acromion and lengthwise into the clavicle—the bones held in normal position until it has entered a distance of 5 cm. The rest of the apparatus is then taken off and the drill left in the bone for eighteen days, when it is removed, with the conditions permanently restored to normal.

Emigration of Calculi. R. PORGES.—The mother of a colleague had suffered from a fistula in the thigh for one and one-half years. She was a healthy woman, 47 years of age, with no antecedents except a record of severe biliary lithiasis at one time, with symptoms of febrile cholecystitis, requiring seven weeks' stay in bed, and pains in the cecal region persisting for a time, followed a year or so later with a tumor in the thigh, very painful, which terminated in the rebellious fistula. The operation on the latter showed that the upper portion of the thigh was traversed by a network of passages in which a large number of biliary calculi were found. The attack of cholecystitis four years before had evidently terminated with the rupture of the gall-bladder and escape of the calculi, which had worked downward, during the long stay in bed, to the back and thence down into the thigh. In 169 cases of wandering calculi collected by Courvoisier, the fistula opened in the right iliac region in 12; in the left in 1; below the navel in 11; in the navel in 12, and in the bladder in 1. Huguier has reported a case of multiple fistulæ opening in the hypogastrium, mons veneris and near the clitoris, following a fall on a beam, affecting the liver region.

Wiener Medicinische Blatter, May and June.

May 3.

Early Diagnosis of Carcinoma. A. WAGNER.—When a gastric affection does not improve under general medical and dietetic treatment, and symptoms suggest a malignant lesion, the surgeon should be called in and an exploratory incision made. The mere incision has frequently a beneficial effect in relieving the disturbance.

May 10.

Uric Acid in Nervous Diseases. J. HIRSCHKRON.—Whenever he notes an excess of uric acid in nervous diseases, Hirschkron devotes his attention to its elimination as the chief factor in treatment. He relates numerous instances in which neuralgia, myalgia, rheumatic and arthritic affections were very much improved merely by a course of Salvator water alone.

St. Petersburger Medicinische Wochenschrift, June 23.

Clinical Value of Cryoscopy. O. MORITZ.—In this article, concluded from the preceding number, extensive tests of the freezing-point of the urine as a means of diagnosis are reported. They demonstrate that cryoscopy is a simple, easy and reliable test for the urine. The results coincided in every case with those of more elaborate microscopic and chemical tests.

Semana Medica (Buenos Ayres), May 10.

Unconscious Parturition. G. SERRA.—The writer relates three cases of childbirth which occurred in healthy women without their knowledge, until apprised by the cry of the child. One case was Serra's own daughter. She complained of moderate pain in the abdomen one night, and he gave her a sedative on her assurance that they could not be labor pains as her time had not arrived. She complained a few minutes later of severe pain in the genital region and, on examination it was found that a fetus had just been expelled. Its foot catching in the cervix had caused the local pain.

Gazzetta degli Ospedale (Milan), June 24.

Tuberculous Toxemia. E. MARAGLIANO.—Certain symptoms in tuberculosis indicate the action of toxins, but the existence of the toxins has never yet been scientifically verified. Maragliano has filled this gap in our knowledge of the disease by a series of experimental tests on guinea-pigs and other small animals, and has conclusively demonstrated that the fresh blood, the glycerinated extract of the blood and the precipitate of the urine, in persons affected with tuberculosis, have a toxic action on both sound and tuberculous animals, as manifested by the familiar clinical phenomena. His research also showed that these toxins can be neutralized by tubercular antitoxin.

Arteriosclerosis of Myocardium. G. BERGHINZ.—An infant, 18 months old, died suddenly in the midst of apparent health, with sudden, paroxysmal dyspnea, accompanied by a spasmodic cough and intense cyanosis, with transient symptoms of edema of the lung, but no fever nor renal symptoms, nor indications of convulsions, laryngeal spasm nor of the habitus thymicus. The autopsy disclosed the typical lesions of congenital syphilides, localized chiefly on the myocardium in the form of arteriosclerosis of the heart. No syphilitic history on the part of the parents could be learned. The same syndrome and lesions were observed in a similar case in which the syphilitic antecedents of the father were proved beyond question. The *Cbl. f. Kindhk.* for June contains a summary of twenty-two cases of hereditary syphilis affecting the automatic ganglia of the heart, showing the possibility of interstitial myocarditis from proliferation of the connective tissue of perivascular origin, as in the observations described above.

Massage for Fractures. L. TAVECCHI.—The modern treatment of fractures of the leg without immobilization is rational, according to Tavecchi, and has afforded brilliant results from every point of view in his experience, with prompt intervention with massage, passive and active movements and baths of hot sand. Histology has confirmed the results attained in the clinics, showing that muscles after a trauma present evidences of diffuse sclerosis with hypertrophy of the adjacent connective tissue, interstitial hemorrhage, engorgement of the blood-vessels and hypertrophy of their external cellular coat. On the other hand muscles massaged after a

trauma are of normal aspect. There are also evidences of neuritis and perineuritis in the first case which are entirely absent in the second. The articulation also "grows rusty" from disuse.

Queries and Minor Notes.

CONTRACT PRACTICE.

ATHENS, ILL., July 9, 1900.

To the Editor.—The enclosed clipping from a local paper shows how it is done in Menard County, Ill., in these last days of the 19th century. The physicians of the various precincts are asked by the County Board to name a lump sum for which they will agree to furnish to the pauper poor of their respective precincts medical and surgical attendance, medicines, drugs, etc., for the year. Pauper poor is understood to mean all those who are dependent on the county. My position is that it is unethical for a physician to enter into such a contract. Am I right in this? M.D.

The following is the notice referred to by our correspondent:

"Bids for Medical Practice.—The County Board of Menard County will receive bids for the pauper medical practice of Athens precinct for one year, at its regular July session at the county court house on the second Monday of July. M. H. LEVERING, Clerk."

ANSWER:—Whether ethical or not, it is certainly foolish for a physician to lower himself and his profession by noticing such a demand by public officials. If the physicians of Menard County were organized as they should be, and stood together as they ought to do, the County Board would pay a fair sum for the services rendered.

REQUIREMENTS FOR PRACTICE.

EVANSVILLE, IND., July 3, 1900.

To the Editor.—Will you kindly inform me regarding the requirements for the practice of medicine in Nebraska and Michigan, and give me the address of the Secretary of each State Board of Health?

How and where can one get a report of the Illinois State Board of Health for 1898? P. R.

ANSWER:—In Nebraska a certificate is required and no one can obtain it unless he is a graduate of a legally incorporated medical college in good standing, requiring attendance on four courses of lectures in four separate years. There is no examination. The fee for the certificate is $5.00. The Secretary of the Board is Dr. F. Crummer, Omaha. In Michigan, a diploma from a medical college approved by the State Board of Registration or an examination will be required. The Secretary is Dr. B. D. Harison, Sault Ste. Marie, who will furnish blank forms and other details.

Write Dr. J. A. Egan, Springfield, Ill., for copy of Report of Illinois State Board of Health.

BLUE HILL, NEB., July 10, 1900.

To the Editor.—Will you please inform me as to the law governing the practice of medicine in Georgia? W. C. F.

ANSWER:—To obtain a diploma to practice medicine in Georgia an examination is required before one of the State Boards of Health of the three principal schools of medicine, and the applicant has to show that he has a diploma from an incorporated school requiring not less than three full courses of study of six months, unless his diploma dates prior to 1895, when two full courses may be sufficient. The Secretary of the Board of Registration is Dr. J. B. S. Holmes, Atlanta. The fee is $10.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the U. S. Navy for the week ending July 14, 1900.

P. A. Surgeon F. W. Olcott, detached from the recruiting rendezvous, Philadelphia, Pa., and ordered home and granted sick leave for two months.

P. A. Surgeon W. B. Grove, detached from the *Scindia* and ordered home.

Surgeon W. H. Rush, granted sick leave until October 1.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending July 12, 1900.

Surgeon G. W. Stoner, granted leave of absence for five days.

Surgeon A. H. Glennan, detailed as quarantine officer at the port of Havana, Cuba, vice Surgeon H. R. Carter, relieved.

Surgeon Eugene Wasdin, granted leave of absence for 10 days.

Surgeon L. L. Williams, detailed as acting medical purveyor during the absence on leave of Surgeon G. W. Stoner.

Surgeon W. P. McIntosh, granted extension of leave of absence for two days.

P. A. Surgeon Rupert Blue, directed to proceed to Milwaukee, Wis., and assume command of the Service, reporting at Washington, D. C., en route.

P. A. Surgeon E. K. Sprague, granted leave of absence for two days.

Asst.-Surgeon S. B. Grubbs, detailed to represent the Service at the Fourth Session of the International Congress of Applied Chemistry at Paris, France.

Asst.-Surgeon W. C. Billings, relieved from duty at Washington, D. C., and upon expiration of leave of absence, to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon J. W. Kerr, relieved from temporary duty at San Francisco quarantine, and directed to proceed to Honolulu, H. I., and report to Surgeon Carmichael for duty.

Asst.-Surgeon F. J. Thornbury, on return of P. A. Surgeon C. H. Gardner from leave of absence, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. W. Vogel, relieved from duty at San Francisco quarantine, and directed to proceed to San Francisco and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon M. W. Glover, on being relieved from duty at Baltimore, Md., directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon B. H. Earle, directed to proceed to Cape Nome, Alaska, for special temporary duty.

Asst.-Surgeon C. C. Pierce, relieved from duty at Mobile, Ala., and directed to proceed to Tortugas quarantine and report to medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon L. P. Gibson, granted leave of absence for five days.

APPOINTMENT.

A. G. Greenstreet, of the District of Columbia, appointed acting asst.-surgeon for duty at Wilmington, N. C., July 11, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended July 14, 1900.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, July 1-7, 4 cases.
Florida: Jacksonville, July 1-7, 1 case.
Illinois: Cairo, July 1-7, 7 cases.
Indiana: Evansville, July 1-7, 1 case.
Iowa: Des Moines, June 1-30, 3 cases.
Kansas: Wichita, July 1-7, 9 cases.
Kentucky: Covington, July 1-8, 13 cases.
Louisiana: New Orleans, July 1-7, 18 cases, 5 deaths.
Maryland: Cumberland, July 1-7, 5 cases.
Massachusetts: Fall River, July 2-9, 2 cases.
Michigan: Jackson, July 1-7, 1 case.
Minnesota: Minneapolis, June 8-30, 20 cases, 1 death.
Nebraska: Omaha, June 23-30, 3 cases.
New Hampshire: Manchester, July 1-7, 1 case.
New York: New York, July 1-7, 1 case.
Ohio: Cincinnati, June 30 to July 6, 6 cases; Cleveland, July 1-7, 37 cases.
Pennsylvania: Pittsburg, July 1-7, 1 case.
Utah: Ogden, June 1-30, 6 cases; Salt Lake City, July 1-7, 1 case.
Virginia: Roanoke, June 1-30, 22 cases, 1 death.
Washington: Tacoma, June 23-30, 1 case.
West Virginia: Charlestown, July 7, 4 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, June 16-23, 5 cases.
Egypt: Cairo, June 10-17, 1 case.
England: Liverpool, June 16-23, 1 case; London, June 16-23, 13 cases.
France: Bordeaux, May 1-31, 1 death; Paris, June 16-23, 1 death.
Greece: Athens, June 16-23, 10 cases, 6 deaths.
India: Karachi, June 3-10, 8 cases, 7 deaths; Madras, May 26 to June 1, 1 death.
Mexico: Chihuahua, July 1-7, 1 death; Vera Cruz, June 23-30, 5 deaths.
Philippines: Manila, May 19-26, 1 case.
Porto Rico: Ponce, June 8-23, 1 case.
Russia: Moscow, June 8-16, 19 cases, 2 deaths; Odessa, June 16-23, 2 cases, 1 death; St. Petersburg, June 16-23, 27 cases, 11 deaths; Warsaw, June 8-16, 2 deaths.
Straits Settlements: Singapore, May 19-26, 1 death.

YELLOW FEVER.

Colombia: Barranquilla, June 16-23, 7 cases, 3 deaths; Cartagena, June 14-21, 5 cases, 5 deaths; Panama, June 25 to July 2, 1 death.
Cuba: Havana, June 20-30, 3 deaths; Santa Clara, June 20-25, 4 cases.

CHOLERA.

India: Madras, May 26 to June 1, 2 deaths.

PLAGUE—FOREIGN AND INSULAR.

Egypt: Port Said, April 20 to June 18, 75 cases, 32 deaths.
India: Karachi, June 3-10, 13 cases, 13 deaths.
Japan: Osaka, June 2-12, 6 cases; Shidzuoka Ken, June 2-12, 2 cases.
Philippines: Manila, May 12-26, 7 cases, 4 deaths.
Turkey: Smyrna, June 6-21, 5 cases.

Change of Address.

Dr. C. P. Aling, from Blue Earth to City Hospital, Stillwater, Minn.
Dr. S. Anderson, from Anaconda, Colo., to Collins, Wyo.
Dr. H. Allison, from 1214 Baxter St. to 323 W. Walnut St., Louisville, Ky.
Dr. Chas. Anderson, from Santa Barbara, Cal., to Ft. Brown, Brownsville, Texas.
Dr. F. E. Auten, from Ludlow and 5th Sts., Dayton, to Cor. Dowing and Ash Sts., Piqua, Ohio.
Dr. G. R. Baker, from 598 Mitchell St., Milwaukee, to Tomahawk, Wis.
Dr. B. B. Brashear, from Atlantic City, N. J., to Concord, Mass.
Dr. T. J. C. Brennan, from 1714 Fairmount Ave., Baltimore, Md., to Woodhaven, Brooklyn, N. Y.
Dr. L. M. Berg, from 2236 to 2032 Michigan Ave., Chicago.
Dr. L. A. Bolling, from Gen. Delivery to 150 Wells St., Fort Wayne, Ind.
Dr. S. D. Bell, from White River to Tucson, Ariz.
Dr. T. J. Caldwell, from 4658 State St. to 11412 Michigan Ave., Chicago.
Dr. J. E. Claussen, from 2205 Cumings St., Omaha, to 405 Court St., Beatrice, Neb.
Dr. J. A. Collie, from Williams Bay, Wis., to Manila, P. I.
Dr. Coryell Faulkner, from 807 Kansas Ave., Topeka, Kan., to Station D, Minneapolis, Minn.
Dr. H. Cushman, from Weston, Neb., to 918 Chicago Ave., Minneapolis, Minn.
Dr. J. E. Coyle, from 1522 Broadway to 1531 Broad St., Paducah, Ky.
Dr. L. Carr, from Stony Creek to 15 Victoria Ave. N., Hamilton, Ont., Can.
Dr. A. B. Davenport, from 1449 Franklin Ave. to Franklin and Miller Aves., Columbus, Ohio.
Dr. M. F. Dorsey, from Amboy to Ladd, Ill.
Dr. J. C. Dunn, from 709 Congress St., to 3700 Wallace St., Chicago.
Dr. D. D. Eads, from Paris, Ky., to 683 Washington Blvd., Chicago.
Dr. J. R. Garner, from Charlottesville, Va., to 302 2nd Ave., New York City.
Dr. O. W. Goss, from Laconia to Lakeport, N. H.,
Dr. B. B. Griffith, from 4th and Broadway to 523½ Broadway, Paducah, Ky.
Dr. R. C. Hefelbower, from Berkshire Bldg. to 22 W. 7th St., Cincinnati, Ohio.
Dr. Lee Haynes, from Unionville to Mendota, Mo.
Dr. I. M. Houston, from Stanberry, Mo., to Falls City, Neb.
Dr. J. W. Ingalls, from 848 to 874 Lafayette Ave., Brooklyn, N. Y.
Dr. J. L. Jarvis, from Calhoun to Corner Walker and Peters Sts., Atlanta, Ga.
Dr. Elmer Lee, from 52 to 9 West 45th St., New York City.
Dr. Miss J. Lyons, from 898 Jackson Blvd., Chicago, to Hume, Ill.
Dr. T. W. Morgan, from Dawson to Lowder, Ill.
Dr. M. M. Martinson, from Algona, Iowa, to 34 Hanover St., Battle Creek, Mich.
Dr. E. W. Meis, from Zwingle to Dyersville, Iowa.
Dr. E. J. Musselem, from 278 Michigan Ave. to 2502 Wentworth Ave., Chicago.
Dr. P. A. McIlhenny, from 1423 Louisiana Ave., New Orleans, La., to 513 Dearborn Ave., Chicago, Ill.
Dr. C. C. Owens, from Maysville to Feeble-Minded Institute, Frankfort, Ky.
Dr. W. L. Pyle, from 1831 to 1806 Chestnut St., Philadelphia.
Dr. S. G. Pake, from West Duluth, Minn., to 1303 Tower Ave., West Superior, Wis.
Dr. A. H. Peters, from Hillsdale, Ill., to Princeton, Iowa.
Dr. F. M. Pickens, from Winfield, Kansas, to Box 211, Indianapolis, Ind.
Dr. Rose A. Russell, from 339 S. Lincoln St. to 32d St. and Rhodes Ave., Chicago.
Dr. H. R. St. John, from 936 Barnett St., Kansas City, to Lost Springs, Kan.
Dr. C. T. Smith, from 30 Grant Pl., Washington, D. C., to Croxton, Va.
Dr. G. E. Shoemaker, from 3727 Chestnut St., Philadelphia, to Eaglesmere, Pa.
Dr. W. K. Scofield, from Cocoa, Fla., to 1217 Filbert St., Philadelpha.
Dr. H. H. Sherk, from 2647 Westfield Ave., Cramer Hill, to Camden, N. J.
Dr. W. E. Shook, from 42 Laflin St., Chicago, to Auburn, Neb.
Dr. B. L. Shellhorn, from 640 Congress St., Chicago, to Peru, Neb.
Dr. J. E. Smith, from 715 Congress St., Chicago, to Flower Creek, Mich.
Dr. E. W. Singletary, from Wilson to Morganza, La.
Dr. J. T. Smith, from 184 Dearborn St. to 65 Washington St., Chicago.
Dr. E. T. Sabal, from 45 to 29 W. Monroe St., Jacksonville, Fla.
Dr. J. M. Tirrell, from Minneapolis, Minn., to Portal, N. D.
Dr. S. M. Taff, from 2600 Pine St. to City Hospital, St. Louis, Mo.
Dr. E. L. Tompkins, from 1512 Q St., Washington, D. C., to Pine Creek Mills, Va.
Dr. C. C. Tallman, from 19 Ashland Blvd., Chicago, to Keota, Ia.
Dr. R. C. Turck, from 2346 Dearborn St. to 452 E. 49th St., Chicago.
Dr. Z. Wilson, from 742 Jackson Blvd., Chicago, to Pennsboro, W. Va.
Dr. N. W. Webber, from 535 Woodward Ave. to 26 Lathrop Ave., Detroit, Mich.
Dr. W. J. Webb, from Kirksville, Mo., to Martinton, Ill.
Dr. John H. J. Upham, from 1414 to 106 E. Broad St., Columbus, Ohio.

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